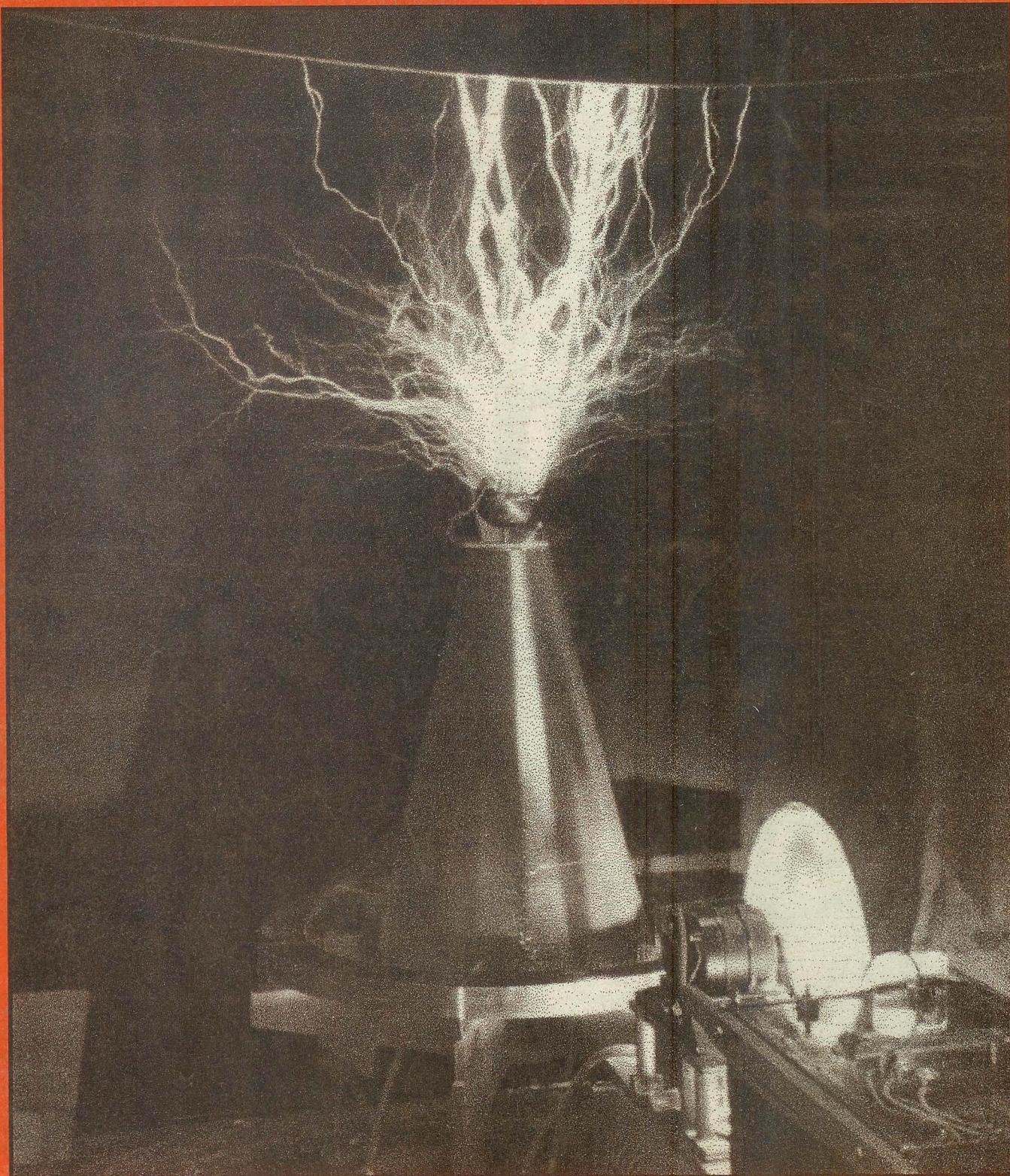


Spring 1994 Announcement Catalog 520

Lindsay's

\$1.00

TECHNICAL BOOKS



Paul Dieterlen's Tesla Coil - see page 6

LINDSAY PUBLICATIONS INC PO Box 538, Bradley IL 60915-0538

BUILD LIGHTNING BOLT GENERATORS!

SECRETS OF BUILDING
ELECTROSTATIC LIGHTNING
BOLT GENERATORS
by Walt Noon

You can generate high voltage with AC transformer devices like the induction coil and Tesla coil, or you can make lightning bolts with electrostatic DC devices like the Van de Graaff generator. Walt Noon, the frenetic electrical experimenter, shows us some of the things he's discovered in his quest for high voltage.

He'll show you and explain the experiments he has run, the problems he has encountered, his solutions to those problems, ways to build low cost lightning bolt generators, ideas that yet need to be explored and much more.

If you're looking for a heavy, theoretical text or a step-by-step construction manual, then this won't cut it for you. BUT! if you want general instructions that will allow you to build high voltage machines out of what you have on hand, and then improve them, you need this.

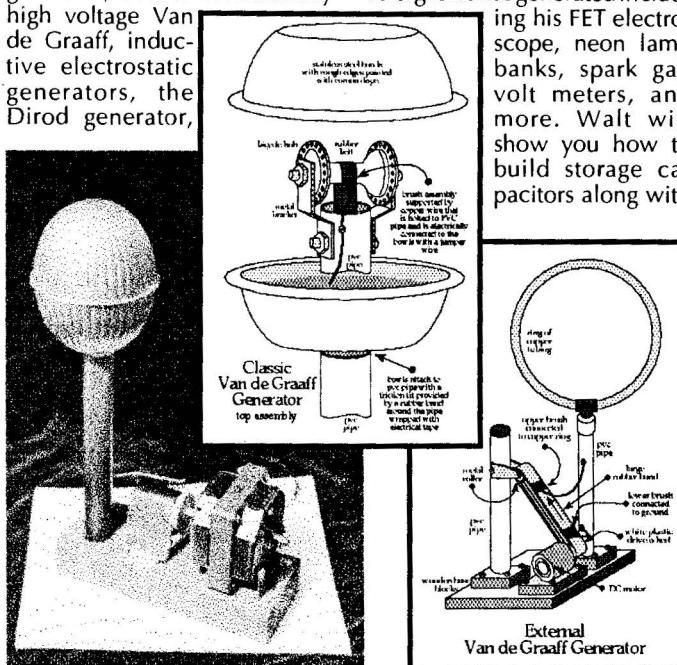
Walt covers the electrophorus, his Rotostatic generator, his bizarre "Cat-o-Static" generator,

*including high voltage test equipment,
experiments, motors and more!*

motor speed controls, external Van de Graaff generators, the classic internal Van de Graaff generator, ideas for an extremely high voltage Van de Graaff, inductive electrostatic generators, the Dirod generator,

and more.

You'll find the equipment Walt has used to measure the voltages he has generated including his FET electro-scope, neon lamp banks, spark gap voltmeters, and more. Walt will show you how to build storage capacitors along with



details of his successes and failures.

You get a list of interesting experiments to perform from something as simple as making your hair stand on end to building a "perpetual motion" machine. You'll learn about a variety of ion motors, ion blowers, the Franklin electrostatic motor, the Poggendorff Corona Motor, and even capturing free electrical energy from the atmosphere (Ben Franklin did this, and it almost killed him!) As a bonus Walt will show you how he electroplates metal onto non-conducting forms to build low-loss high voltage terminals!

Walt is not a scientist nor a fantastic author. But he will clearly and humorously explain some of the crazy experiments he's tried and hopes you'll improve on. You get an easy-to-read text loaded with photos and drawings. You'll find that it's really quite easy to get started in electrostatics, and Walt's book will get you going!

Excellent book! Worth having. Get a copy. 5 1/2 x 8 1/2 paperback 91 pages Cat. no. 20900 \$8.95

BUILD A 40,000 VOLT INDUCTION COIL

HOW TO BUILD A 40,000 VOLT
INDUCTION COIL

by Walt Noon

Are you looking for a fast and simple way to generate high voltage? Then you should build this nifty little device. All of the parts should be available in your area, and depending how much experience you

have building electronic equipment, you should be able to bolt it together in a few hours.

As you already know, the ignition coil in your automobile is the modern equivalent of an old time induction coil. It is nothing more than a transformer that converts low voltage into very high voltage. The points in your automobile replace the old fashioned

spark gap. Every time the points open, a pulse of DC current hits the coil like a hammer hits a bell. The ignition coil "rings" like a bell and produces a burst of high voltage. If you "hit" the coil fast enough, the ringing seems to be continuous.

Walt Noon's circuit here replaces the spark gap and the points with a low cost solid state circuit. The circuit takes 110 VAC out of your wall and converts it into a string of DC pulses. The pulses are sent to the terminals of an ignition coil that you can purchase

at your local discount store. Off the high voltage terminal comes a solid 40,000 volts that can be used for a variety of experiments including plasma globes and Kir-

lian photography.

The circuit, based on a 555 timer integrated circuit, provides pulses with adjustable power and frequency. This allows you to easily tune the pulses to the natural resonant frequency of the coil which will significantly increase the output voltage.

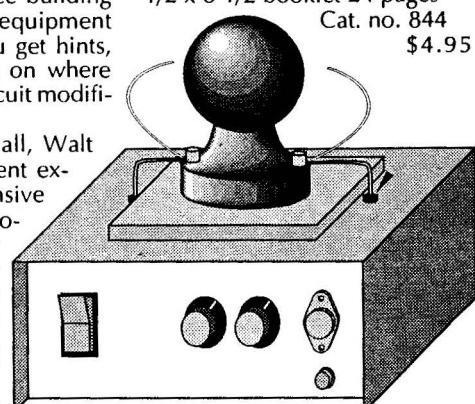
You get drawings of the unit, parts list, circuit diagram, photos and assembly instructions for the coil. You are expected to have at least some experience building modern electronic equipment with perf board. You get hints, tips and suggestions on where and how to make circuit modifications.

Probably best of all, Walt includes eight different experiments plus extensive details on Kirlian photography. He'll show you how to modify an inexpensive 35mm camera to take these unusual photographs in color and black and white. You

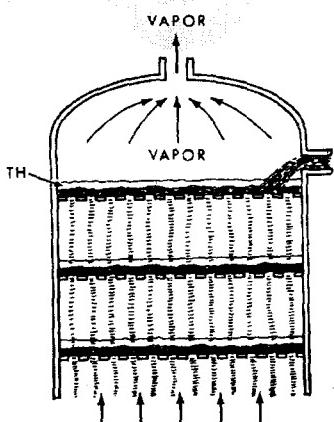
also get six Kirlian photographs taken with the equipment he shows you how to build.

If you want to try your hand at high voltage experiments, this might be just the way for you to "cut your teeth", and it's something you'll be proud to show your friends. And it's a good way to literally shock the pants off them! Get a copy of this. It's unusual. It's well written. And it's inexpensive. You'll like it. 5 1/2 x 8 1/2 booklet 24 pages

Cat. no. 844 \$4.95



Industrial Distillation



DISTILLATION Principles and Design Procedures

by R J Hengstebeck

Sure! You can take a tea kettle, attach a copper worm and be distilling moonshine in an hour or so. And you can go blind quicker than that! But what if you want to produce 300 gallons of fuel alcohol for your automobile? That's another story.

Here's a full tilt industrial handbook on distillation, a process that is used to make booze, refine oil, and manufacture all types of valuable chemicals.

Chapters include volatilities and equilibrium relationships, distillation operations, column internals, equilibrium flash vaporizations, design of distillation columns, stage and reflux requirements in continuous distillations and batch distillations, efficiencies of column internals, sizing columns, control of distillation operations, other design considerations, estimation of equilibrium data, estimation of enthalpy in design work, and more.

If you're seriously considering building a still, this is a book that will deliver more information than you'll need. You get charts, diagrams, graphs, tables, equations, photos and a lot more. This isn't a moonshine book. This is how the big boys do it.

Expensive, but a great reference. Consider it. Originally published in 1961, I'm surprised that it is still being reprinted. But who knows for how much longer? Get a copy. 6x9 hardcover 365 pages Cat. no. 216 \$34.50

Static, High Frequency, Radio, Photo and Radium Therapy

by William Harvey King
reprinted by Lindsay Publications

Ooooh! If you like unusual electrical apparatus, you'll find this interesting. But if you're ailing, I don't think this is going to help you much. I think the AMA and FDA will very quickly tell you that most, if not all, of this is pure quack medicine. So what? I'm not a doctor. I'm looking for interesting books. And this is one of them.

Chapters include: static electricity, induction coil, X-rays, high-frequency currents, Finsen and ultra-violet light, radium, electro-physiology and methods of application, use of static electricity, application of the high-frequency currents, the Roentgen ray, electric lightbath, and chapters on diseases and their treatment.

Some of the illustrations are simply great - like the Wehnelt interrupter, the McKenzie-Davidson interrupter, a huge

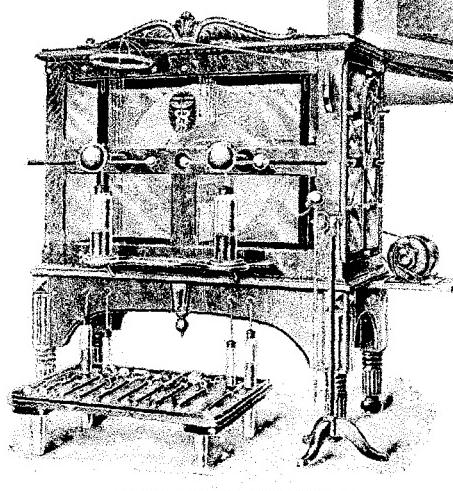


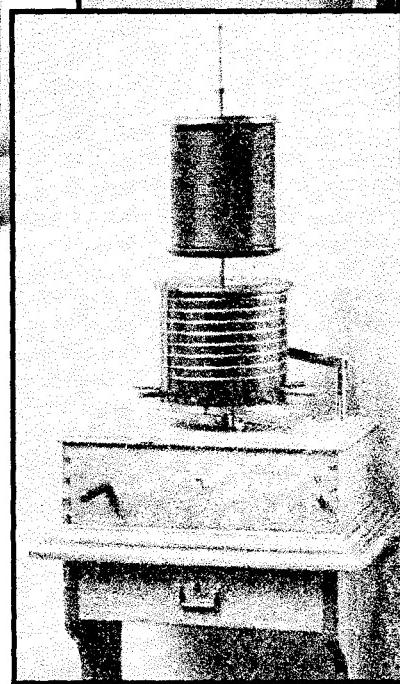
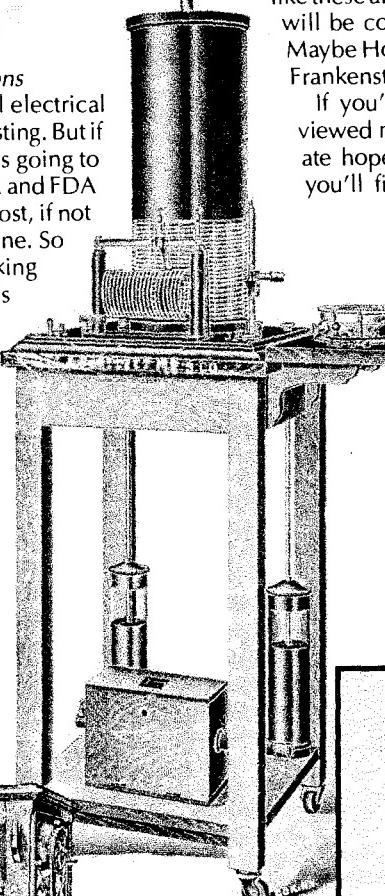
FIG. XXVII—HOLTZ MACHINE

cabinet-sized Holtz machine, devices similar to the Tesla coil such as the Hirschmann device, the Ovington machine, and more. The Piffard chair could have been used at Sing-Sing. You'll see a beautiful illustration of the combined d'Arsonval solenoid and Oudin resonator. Check out a quack medicine device that looks like an early tanning bed. And there are some "interesting" pix of people with nasty looking tumors and lesions. (Keep 'em away from me...)

This is a fascinating look at electrical machinery, but it is not a construction manual. Anyone can build a Tesla coil. But if you build your coil to look

like these and install it in a fine cabinet people will be convinced you ARE a mad doctor. Maybe Hollywood will put you in their next Frankenstein movie.

If you're interested in the way people viewed medicine in 1905 and the desperate hopes they had for new technology, you'll find this worth having. Whatever



your angle, you'll find this to be an interesting and very rare book. You can imagine how few must have been printed and sold at the turn-of-the-century.

Here's a chance to add a copy to your library of the bizarre at a cost way below that of an original. Consider this. Maybe you could move to some backward country and practice medicine! (Course, when they discover you're a quack, you'll be fed to the crocodiles...) Order a copy. 5 1/2 x 8 1/2 paperback 291 pages Cat. no. 21311 \$11.95

Electricity at HIGH PRESSURES & FREQUENCIES

ELECTRICITY AT HIGH PRESSURES AND FREQUENCIES

by Henry L. Transtrom

reprinted by Lindsay Publications

This off beat book on high voltage appeared in 1913 and was revised again for publication in 1921. Its chapters have no names. There appear to be 139 illustrations.

The entire first part of the book covers electrical theory on electricity, how it is produced by generators, ideas of induction, ampere-turns, frequency and the phase shift that occurs through reactive elements and much more. This isn't heavy stuff — practical theory that builders can use, more or less translations of "heavy" engineering theory. This is great material for the experimenter in induction coils, Tesla coils, Oudin coils, and other lightning bolt generators.



TESLA COIL SECRETS

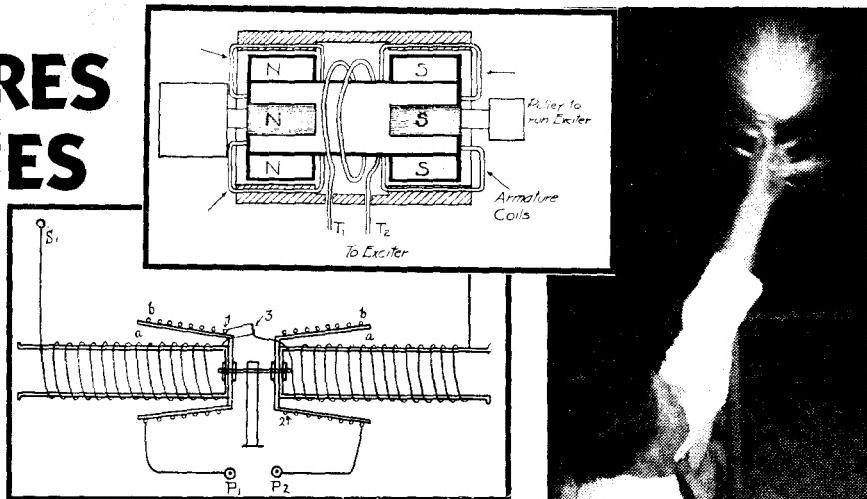
by R. A. Ford

Be the first on your block to blast your neighborhood with high voltage! Shock the socks off your friends and relatives! Zap those pesky cats digging in the garbage can! Make people think you really are building a Frankenstein monster in your basement!

A Tesla coil is a resonant, air-core, high-voltage transformer developed by Nikola Tesla at the turn of the century to generate lightning bolts and to investigate the wireless transmission of electrical power.

Now you can dig through the private scrapbooks of an avid Tesla researcher who has built several coils. You can study his collection of articles, clippings, and notes that took years to assemble. You'll see all the interesting hints, plans, and wiring diagrams gleaned from early magazines that ceased publication decades ago along with formulas, notes, and observations he believes are important for building powerful coils. Many of the old articles are so detailed that you can probably use them to build a powerful experimental coil. There are notes on one machine the could kick out five foot lightning bolts!

If you're really into Tesla coils, you may have seen a few of these clippings already.



show you a Fessenden alternator driven by a 10 hp DC motor through gears that revolves at 20,000 rpm that kicks out over 2,000 watts of high-frequency high voltage!

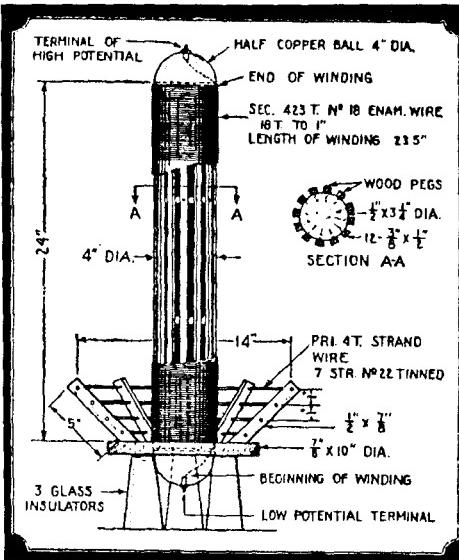
You'll then read about capacitive machines. You'll see a device that develops 15,000 volts between two ends of 25 feet of No. 4 aluminum wire! Another photo shows a 10 volt 5 watt Mazda lamp is lit to full brightness although apparently short circuited by 6 inches of No. 00 copper wire! It shouldn't work, but it does. You'll see a high-frequency transformer that throws heavy 60" sparks between its terminals. Other photos show unusual high voltage experiments. The last 20% of this book is worth the price of the entire book!

This is another must have for the high-voltage library — a book that is very difficult to find in used book stores and so on. Get yourself a copy. You'll like it. Excellent book! 5x7 paperback 264 pages

\$11.95

TESLA COIL SECRETS

But I'll bet there are others you haven't seen. You'll get info on rotary spark gaps, anti-kickback devices, Leyden jar capacitor construction, conical Tesla coils, Oudin coils, and suggestions on research into wireless power transmission, plant growth stimulation, medical uses, and more.



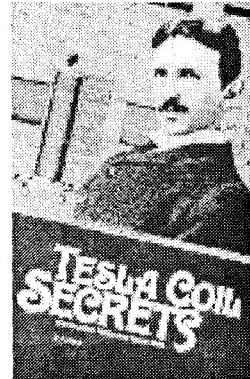
Many of the reprinted articles are fuzzy and a few hard to read. Most have been enlarged to bring out the construction details, and have been reprinted in their entirety. The difficult searching has been done. You can spend your time building and experimenting.

Be warned! You'll be working with high-voltage high-frequency devices from another era. Tesla coils can be very dangerous. But maybe you can be the one to rediscover the secrets Tesla didn't have time to pursue or reveal.

Rare info! Too bad the book isn't ten times bigger. Get a copy for the reference library if for no other reason. Interesting reading. Recommended!

5 1/2 x 8 1/2 paperback 74 pages
Cat. no. 4317

\$6.95



TESLA'S EXPERIMENTS

with High Potential & High Frequency

EXPERIMENTS WITH ALTERNATE CURRENTS OF HIGH POTENTIAL & HIGH FREQUENCY

by Nikola Tesla

"A lecture delivered before the institution of electrical engineers, London, by Nikola Tesla with an appendix by the same author on the transmission of electric energy without wire, reviewing his recent work, and presenting illustrations from the photographs never before published".

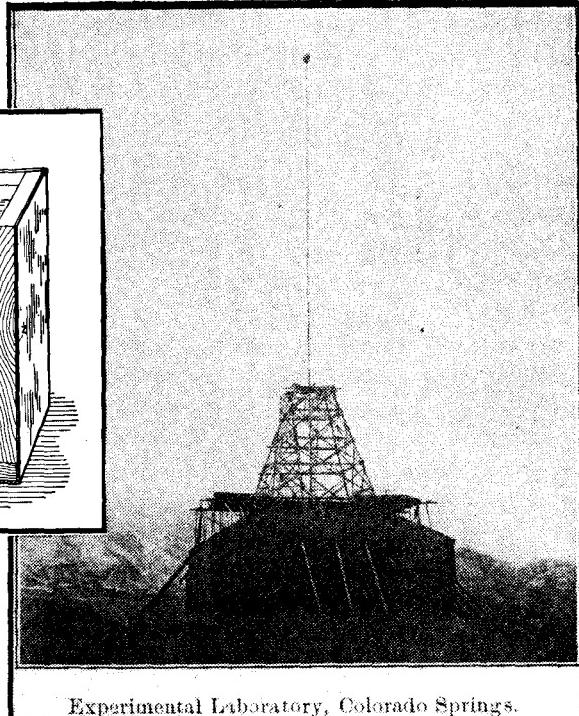
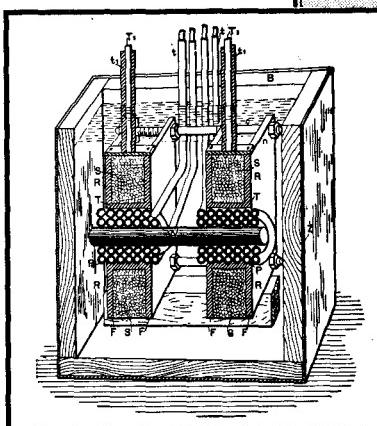
Quite a title! Quite a book! There's so much written and published about Tesla (and too much of it is pure garbage), that it is refreshing to have the inventor himself explain his experiments, theories, and plans. It's all here, every page from the original 1904 book — complete with unusual illustrations showing disruptive discharge coils, improved discharger and magnet, luminous discs, single wire and no wire motor, unusual electric lights for use with the high-frequency AC that is generated by the Tesla coil, and much more.

The last fourteen pages of the book is a reprint of Tesla's article from the March 5, 1904 issue of "Electrical World and Engineer" complete with photographs of the experimental apparatus at Colorado Springs and Long Island built to test the transmission of electrical power without wires.

Anyone who studies Tesla, builds his coils, or wants to perfect the inventions that Tesla didn't have time to finish should have a copy of this book. The writings of Tesla himself should be the cornerstone of any Tesla library, and here is your chance to get your own copy of this now-rare book. Interesting reading. Historically important. Get a copy.

5 1/2 x 8 1/2 paperback 170 pages.
Cat. No. 4392

\$9.95



Experimental Laboratory, Colorado Springs.

Power transmission without wires: the London Lecture plus a 1904 magazine article on the Colorado Springs experiments! Rare book!

HIGH FREQUENCY APPARATUS

by Thomas Stanley Curtis
reprinted by Lindsay Publications

By 1916 so much interest in induction, Tesla and Oudin coils had been generated by Electrician & Mechanic, Popular Electricity and Modern Mechanics, and The World's Advances magazines, that Curtis knew his book and high voltage equipment he manufactured would be a hit.

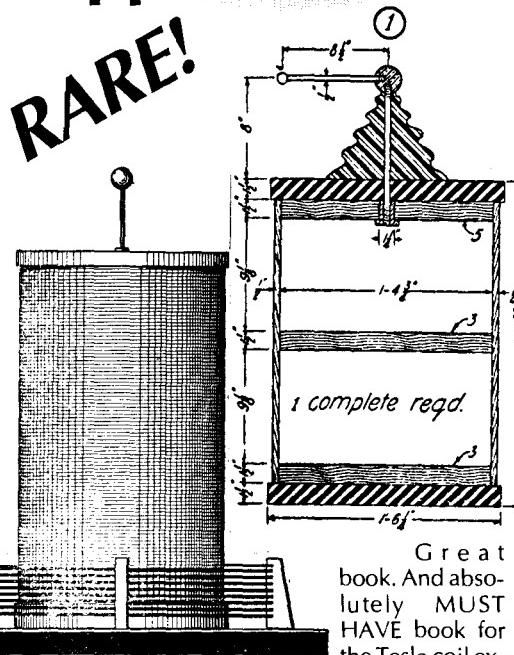
Because of their very nature, magazines could publish only brief articles on these lightning bolt generators. Curtis went the other extreme, and packed "Apparatus" with as much detailed information as he could find. Then he added suggestions for experiments and dozens of illustrations. The result is now a classic book, and original copies are so coveted that they're difficult to find.

You get wall-to-wall how-to on coil construction. Tips on calculating windings, winding coils, making transformers, interrupters and spark gaps, and even the power transformers that drive the spark gap.

If you want to die young, you can build an X-ray apparatus. Use it long enough, and you and everyone in your apartment building will glow in the dark!

Build a grid and see for yourself if high frequency current really does affect plant growth. Build yourself a large coil that produces 50" lightning bolts, give lectures, and make people think you are a genuine made scientist.

"High Frequency Apparatus"

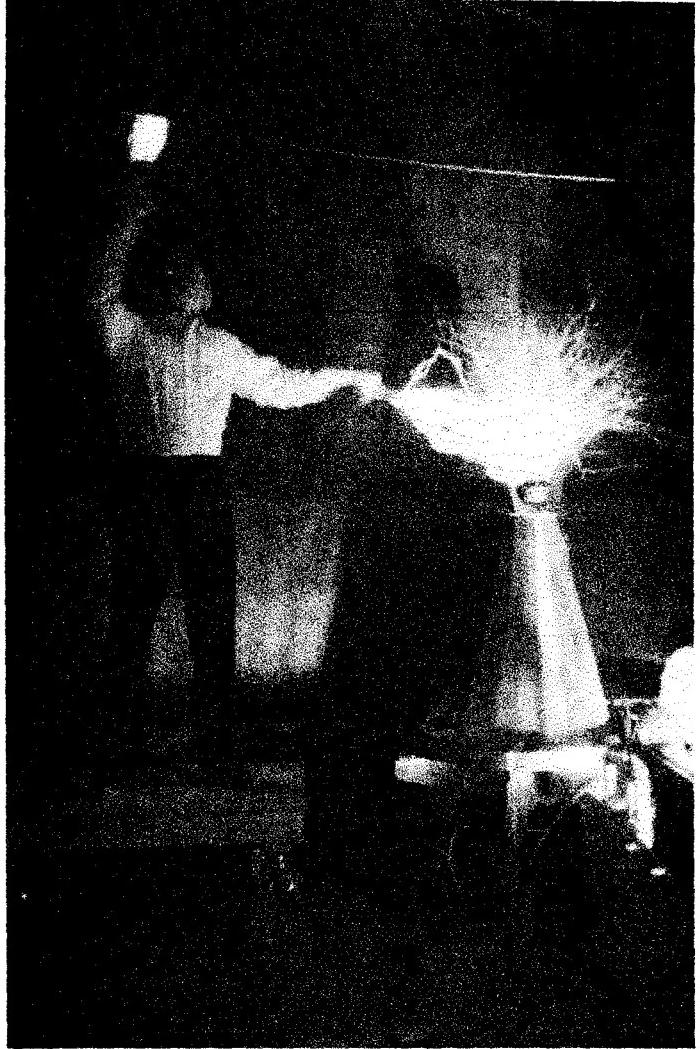


Great book. And absolutely MUST HAVE book for the Tesla coil experimenters. Get a copy for your high-voltage library. Quality. Order a copy today. 5 1/2 x 8 1/2 paper 247 pages well illustrated
Cat. no. 20030

\$12.95

CONTENTS

- 1 Alternating Current at Low and High Frequencies
- 2 How the High Frequency Current is Produced
- 3 The High Potential Transformer or Induction Coil
- 4 The Oscillation Transformer
- 5 The Spark Gap
- 6 Oscillation Transformers
- 7 Induction Coil Outfits Operated on Battery Current
- 8 Kicking Coil Apparatus
- 9 One-Half Kilowatt Transformer Outfit
- 10 Quenched Gap Apparatus
- 11 Physicians' Portable Apparatus
- 12 Physicians' Office Equipment
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- 14 Notes for the Beginner in Electro-Therapeutics
- 15 Plant Culture with High Tension Current
- 16 High Frequency Plant Culture
- 17 A Foreword on the Construction of Electrical Apparatus for the Stage
- 18 Construction of Large High Frequency Apparatus
- 19 Large Tesla and Oudin Coils for the Stage
- 20 Construction of a Welding Transformer
- 21 Hints for the Electrical Entertainer Appendix Parts and Materials – How Much They Cost and Where to Get Them



A Reincarnated Tesla Lives in Kentucky!

Paul Dieterlen shows what's possible with Lindsay books...

Can you really build a Tesla coil from the books in this catalog? Paul Dieterlen in Kentucky proves that it can be done. Impressively! Here and on the cover of this catalog you can see his results. He writes,

"The equipment is all home-made, patterned after material in the book '*High Frequency Apparatus*' by Curtis - mainly the large 4kw unit of chapter XVIII. Due to some modifications to the low frequency transformer construction, this apparatus uses more like 7kw of power.

The original cylindrical design high frequency secondary coil wound on a wooden form gradually developed problems with tracking of sparks through the wood, and finally caught fire. The design of the cone shaped coil shown in the photos was based on proportions recommended by Curtis, and is wound on a plexiglas form to avoid the problems described above. For its size it certainly is an excellent

performer, giving substantial sparks up to 43" in length.

Ideas for experiments were gained from the Curtis book, as well as '*Electricity at High Pressures and Frequencies*' by Transtrom and the Tesla lectures.

A word of caution about such apparatus is to keep it away from sensitive electronic equipment. My coil burned out the printer of a fax machine from a distance of around 35 feet!"

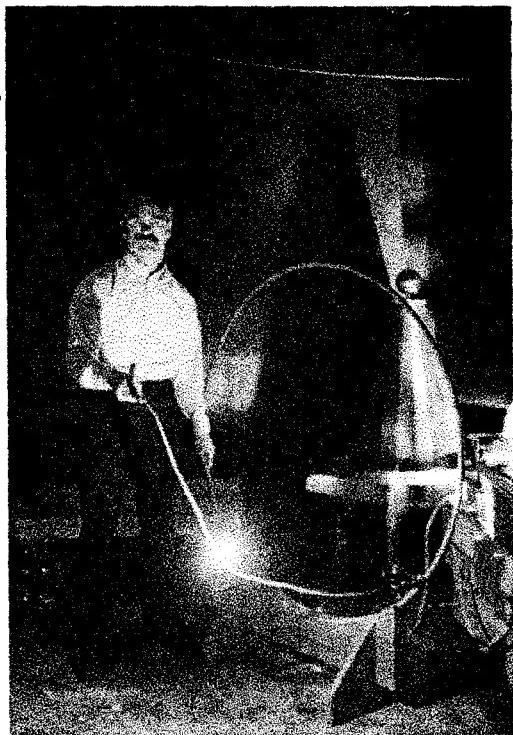
Paul hasn't yet created a video tape of his giant lightning bolt generators in action, but still wants to. He's much too busy with his custom machinery design business.

(PLEASE NOTE! This equipment is dangerous! What you see in these photographs presents very real dangers, known and unknown. We are not advocating you try these experiments. If you do, you do so at your own risk. Paul Dieterlen and Lindsay Publications will not be liable.)

*Upper left:
Dieterlen's
conical Tesla
coil based on the
design from
Curtis's book,
*High Frequency
Apparatus**

*Left: two 300
watt incandes-
cent bulbs, one
lit without wires,
the other "short
circuited" across
a copper bar
loop*

*Right: a 25 watt
incandescent
bulb*

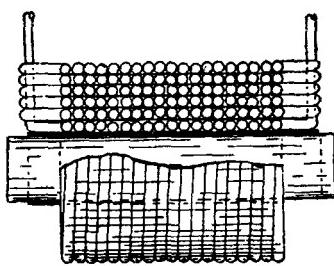
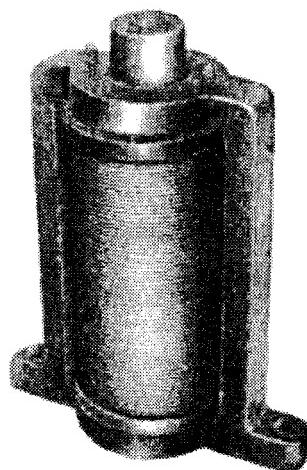


ELECTROMAGNETS

SOLENOIDS,
ELECTROMAGNETS
AND ELECTROMAGNETIC
WINDINGS

by Charles R. Underhill
reprinted by Lindsay Publications

Creating an electromagnet is quite easy as Faraday discovered, and as you and I know. But creating an electromagnet that generates a field of needed intensity, drawing minimal amperage at available voltage without overheating is not so easy. Few people know how it's done. Here you'll learn the secrets of creating working electromagnets.



Chapters include: magnetism and permanent magnets, electric circuits, electromagnetic calculations, the solenoid, practical solenoids, iron-clad solenoid, plunger electromagnets, electromagnets with external armatures, electromagnetic phenomena, alternating currents, AC electromagnets, quick-acting electromagnets and methods of reducing sparking, materials and bobbins, insulation of coils, magnet wire, insulated wire, windings, forms of windings, heating of windings, and tables and charts. There are also 233 illustrations listed showing everything from a practical multiple-coil winding to rim solenoids telescoped to form disk solenoids.

Underhill was a consulting electrical engineer who put this book out in 1910 and created

this 2nd edition in 1914. This is reprinted from one of the fourth thousand printed in 1921.

You get a practical book. The math you get is completely practical and useful. The charts are practical. All of the information is practical.

Some things have changed since 1921 such as better insulation and higher-permeability iron, but amps are still and amps and Oersteds are still Oersteds.

Why not build a powerful electromagnet and put it in the bushes outside your house? Pulse the juice to it, and you can roll cars over on their side as they drive by! Imagine the effect it would have on that steel plate your mother-in-law had to have installed in her head after you attacked her with the ax handle! Imagine the fun!

Or build that perpetual motion machine that some people claim is possible. Or how about a flying saucer? Or how about just getting a copy for your reference library? When the need arises, you'll have rare information immediately available. Excellent book. Get one! 4/12 x 8 paperback 342 pages

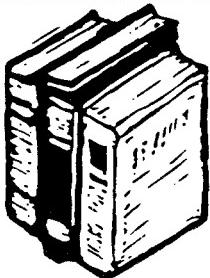
Cat. no. 20960 \$13.95

OLD MAGAZINES WANTED!

I'm looking for the following old magazines:

- Radio News • Science & Invention •
- Practical Electrics • Science Experimenter • Popular Science

I need issues from the 1920's and 1930's. If you have copies, and are willing to part with them, I'm willing to swap books from the catalog, or buy them outright.



Electrocute Your Carrot!

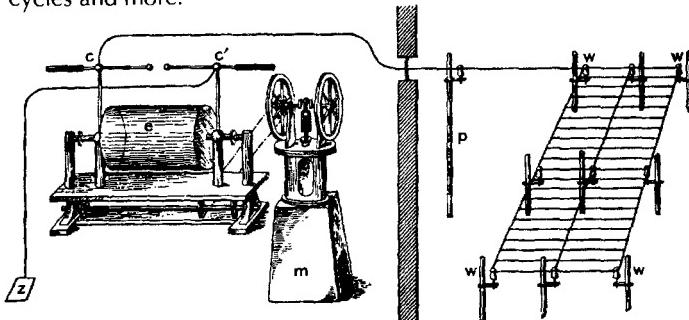
ELECTRICITY IN AGRICULTURE
AND HORTICULTURE

by Prof. S. Lemström
reprinted by Lindsay Publications

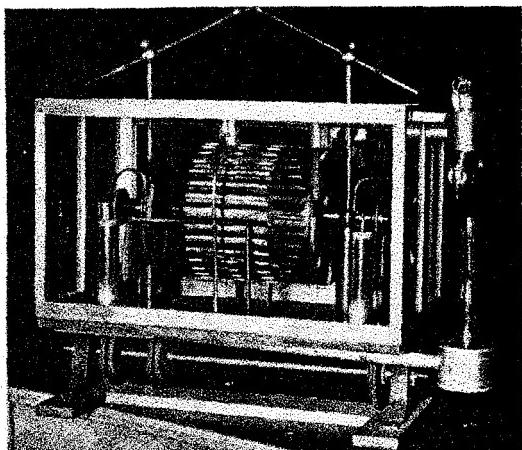
Grow gigantic carrots! Humongous potatoes! Killer broccoli! Well... maybe.

Bits and pieces of this book have been reprinted in a number of modern books dealing with high voltage. Nuts to the bits and pieces. Here's the whole thing. Study it for yourself.

Lemström's contention is that electricity will make plants grow larger, faster, healthier. He opens his book with an observation that plants grown in Finland and northern Norway in the 1860's were larger and more productive than those grown at lower latitudes where it was warmer. He attributed this to the electrical currents that appear in Polar light. Hmmmm. I wonder. And he talks about sun spot cycles and more.



The rest of the book deals with controlled studies of plants grown with and without electrical stimulation from a Holtz high voltage



This is not a machinery how-to book, but it IS an interesting thing to test once you build a machine. Lemström's explanations of how the thing works are somewhat less than scientific, but the results may be valid. Somehow I can't imagine stringing thousands of miles of wire charged with high voltage through thousands of acres of American and Canadian wheat fields. Wouldn't that do a number on the combines? But that doesn't mean you might not be able to turn out terrifying tomatoes in your backyard.

I don't know what to think. I've seen parts of this book cannibalized and reprinted in a number of other books. No longer do you have to wonder what has been left out. Here's the whole thing for your reference and research library. Unusual. Rare. Grab a copy. 5 1/2 x 8 1/2 paperback 72 pages plus several plates

Cat. no. 21320

\$9.95

TESLA SYMPOSIUM

PROCEEDINGS OF THE 1990 INTERNATIONAL TESLA SYMPOSIUM 1990

edited by Steven Elswick

Here's another collection of practical, experimental, and just plain loonie ideas related to Tesla. Some of this is fascinating reading, some a rehash of material available elsewhere, and the raving of some people who claim that scientists are all wrong, and that they have the knowledge that will totally change the world. In other words, this is a three ring circus.

Included are the Tesla Museum, the AC/DC war, a great paper by Jim Hardesty on X-Rays and Electron Beams (see the video in this catalog), 100 Years of Cavity Resonator Problems, Rediscovery of Tesla's RF Techniques, Computer Aided Design of Tesla Coils, Active Antenna for ELF Magnetic Fields, Tesla Technology and Radioisotropic Energy Generation, Current Tesla Turbine Technology, Non-Hertzian Scalar Energy and EM Energy: The Biological Connection, Nikola Tesla: Father of Bioelectronics, and the "good stuff": Tesla Wave Physics for a Free Energy Universe, Engineering Intro to Zero Point Energy, Tapping the Zero-Point Energy and Scalar Current, Nonlinear Dynamics, Nonconventional Energy and Propulsion Methods, High Voltage Concentric Field Generator Design, Energy Phenomenon, Experiments in Synchronicity, and the Gary Magnetic Effect.

You get a well illustrated volume of interesting reading. It's expensive, but the material is hard to find and is the only published documentation of the 1990 Symposium held in Colorado. If Tesla and bizarre science is your thing, then this is definitely for you. Get a copy. 8 1/2 x 11 hardcover over 350 pages

Cat. no. 768

\$49.95

1988 Tesla Symposium

PROCEEDINGS OF THE
1988 INTERNATIONAL TESLA SYMPOSIUM

edited by S. R. Elswick

Every year in Colorado, Tesla fans gather for a symposium to swap information. Here, in one convenient volume, are the papers presented at the 1988 meeting.

Chapters are collections of papers on a particular topic: Tesla history, Tesla coils, geophysical effects, electromagnetics, energy research, and gravitics. You get the Great AC/DC War, Tesla's Contributions to Electrotherapy, History of Laser Particle Beam Weapons, Tesla Coil - An RF Power Processing Tutorial for Engineers, Computer Simulation & Experimental Verification of Tesla High Voltage Machines, Earth-Ionosphere Cavity Magnetic Field Spectra in the 3-30 hz Band, Demonstrating A Zero-point Energy Coherence, Phenomenon of Electric Charge Generation by Space Rotation, Studies on Rotation Leading to the "N" Machine, Recent Developments of Levitation, Maxwell's Lost Unified Field Theory, and ten more! Although not heavily illustrated, you do get a number of drawings, circuits, charts, and there is plenty of math in places.

This is an unusual book, to say the least. It is a must-have for Tesla fanatics, anti-gravity people, perpetual motion people, and the fringe-science crowd in the general. I can't tell where the hard science ends and the speculation and alternate science theory sets in. So you know it's unusual! It's expensive, but worth having. Consider it carefully. 8 1/2 x 11 hardcover about 320 pages

Cat. no. 385

\$49.95

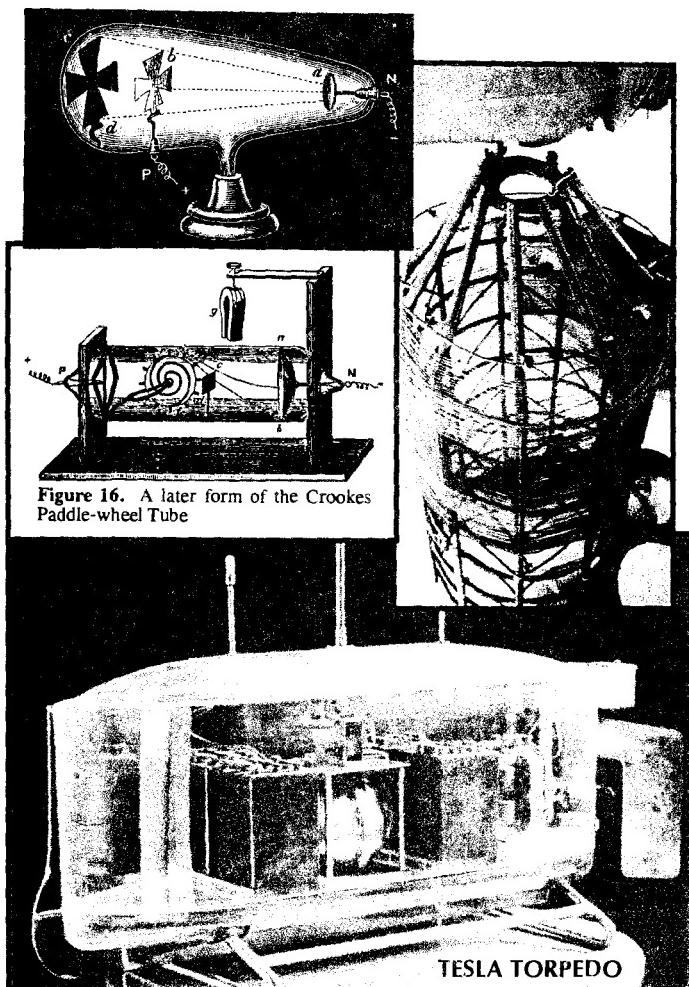


Figure 16. A later form of the Crookes Paddle-wheel Tube

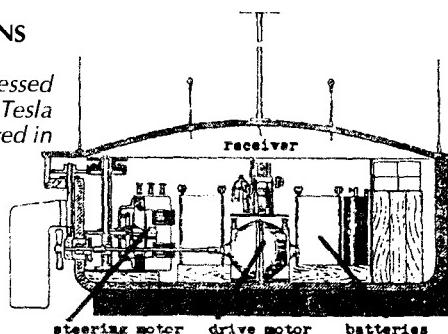
TESLA TORPEDO

Tesla's Lost Inventions

**TESLA:
THE LOST INVENTIONS**

by George Trinkaus

"Here are the suppressed inventions of Nikola Tesla all in one place rendered in clear English and in 42 illustrations. Tesla was famous at the turn of the century for inventing the alternating-current system still in use today. But his later inventions, documented in some 30 U.S. patents between 1890 and 1921, have never been utilized as Tesla intended despite their obvious potential for advancing in fundamental ways the technology of modern civilization. Among these lost inventions: the disk-turbine rotary engine, the tesla-coil electric energy magnifier, high-frequency lighting systems, the magnifying transmitter, wireless power, and the free-energy receiver." —from the front cover.



Like Trinkaus's other Tesla book, the only criticism that can be leveled here is that the chapters are too short. Interesting, unusual information, especially if you're just beginning your study of Tesla. Fairly priced. 8 1/2 x 7 booklet 34 pages

Cat. no. 748

\$5.95

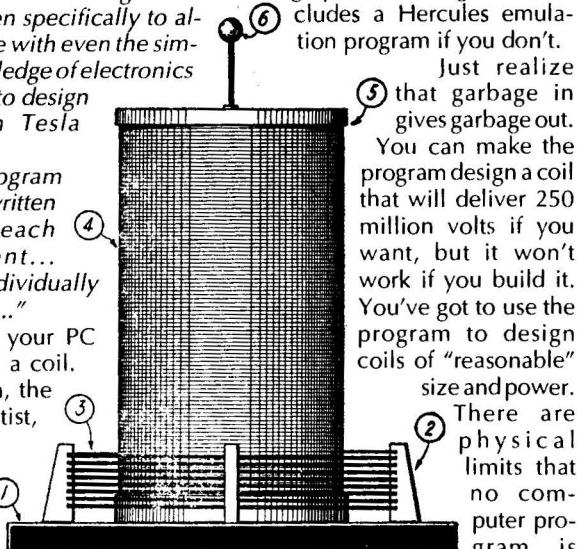
THE TESLA COIL DESIGNER

by Walt Noon

"The Tesla Coil Designer has been written specifically to allow anyone with even the simplest knowledge of electronics to be able to design their own Tesla coil..."

The program has been written so that each component... can be individually calculated..."

Fire up your PC and design a coil. Walt Noon, the mad scientist, will provide you with a quality



Tesla Coil Design Computer Program

design program that offers more sophisticated design features than programs offered at twice the price.

You get a 5 1/4 floppy and a small booklet which walks you through the design of a 200,000 volt Tesla coil. The program is not copy protected, and can be

program for IBM compatible computers!

- Highly Accurate
- Tested out to 40" arcs!
- Easy to Use
- Easy to Learn
- Reasonably Priced

Newest version includes calculations for top capacitance, toroidal terminals, spark gap design, and additional graphics.

What Coil Builders are Saying...

Dear Mr. Noon:

Thank you very much for the Tesla Coil Designer program. I found it very easy to learn and A HUGE TIME SAVER! The hours I used to spend calculating design parameters are now spent comparing various design limits. I have found your Designer to be extremely accurate in predicting coil frequency and discharge in the coils I have built since purchasing your program.... I have been very pleased with the way the program operates...

Richard T Quick, Glendale MO

Walt:

I purchased your IBM PC Tesla Coil software back in May, and I like the software very much...

Kim Kochersperger, Kokomo IN

copied to your hard disk for execution. You'll need at least CGA graphics, although Walt includes a Hercules emulation program if you don't.

Just realize (5) that garbage in gives garbage out.

You can make the program design a coil that will deliver 250 million volts if you want, but it won't work if you build it. You've got to use the program to design coils of "reasonable" size and power.

There are physical limits that no computer program is



Tesla Coil Handbook

TESLA COIL HANDBOOK

by Todd A Pringle

"Introduction to Theory, Design and Construction of Air-Core Resonating Transformers".

So much of what you find published on Tesla coil construction is just a rehash of past projects. The accounts are often badly polluted with mistakes, completely wrong rules-of-thumb, and old-wives' tales. Many plans will actually take you down in the wrong path.

Pringle, an electrical engineering student, has done an excellent job of clearing the air. He'll hit you with theory that is accurate but not over powering. You'll learn the truth about coils and the problems often faced in their construction - problems that often interfere with optimum operation of the coil yet are not



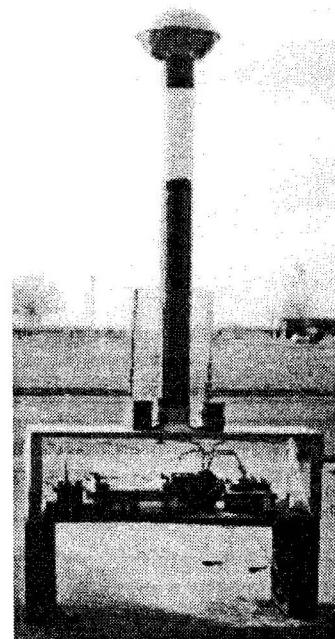
You'll learn about 1/4 wave principle, the Ferranti rise, capacitors, power transformers, spark gaps and all the other components of a coil. You'll learn about design parameters and procedures, tuning and operation, sample design, and more.

If you don't know by now, Tesla coils can be dangerous and downright lethal. The author just for good measure throws in a set of plans for a Jacob's ladder should you decide you don't understand enough to safely build a coil.)

And you get plans, specs, wiring diagrams, and a couple of photos of a coil with a 40" x 4"

secondary coil capable of throwing 28" sparks. The info on this coil alone is worth the price of the book.

You get formulas, simple explanations of complex theory, advice from someone who has built a coil and who has far more theoretical background than most of us, plans, and suppliers of parts, and valid coil theory.



You get quality. This isn't the biggest book, the cheapest, or the most professional in appearance, but you get value. This delivers accurate information without the BS so often seen in other Tesla coil publications. I hope this becomes just the first step in a series of Tesla coil books from Pringle. I think you'll like this. Worth having. Order a copy! 8 1/2 x 11 booklet binding 60 pages Cat. no. 3007 \$9.95

Who Was Nikola Tesla?

TESLA: MAN OUT OF TIME

by Margaret Cheney

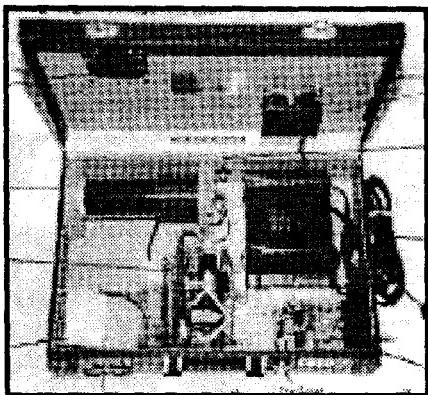
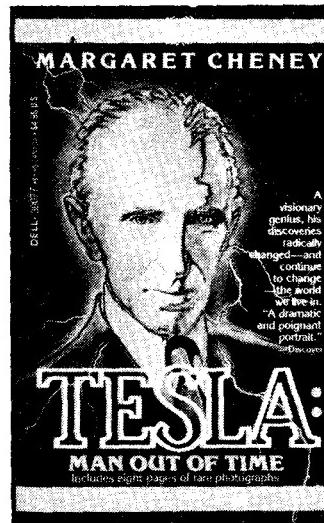
"Flamboyant, eccentric, almost supernaturally gifted, had he been born today he would still be ahead of his time. Called a madman by some, a genius by others, and an enigma by nearly everyone, Nikola Tesla was perhaps the greatest inventor the world has ever known..."

"It was Tesla who harnessed the alternating electrical current that we use today... Tesla who actually invented radio... Tesla who invented fluorescent lighting and the incredible bladeless turbine. He introduced us to the fundamentals of robotics and computer and missile science, which continued to create and transform the future..."

There are many books about Tesla, some of them are garbage written by groupies who worship Tesla as a god. Here's a great factual biography that has gotten great reviews — the story of a wizard who was Edison's enemy, Mark Twain's friend, and J. P. Morgan's client. This is the real story. Excellent book at a reasonable price. Order a copy. 310 pages "mass" paperback a few photos

Cat. no. 717

\$5.95



LAKHOVSKY MULTIPLE WAVE OSCILLATOR HANDBOOK

compiled by Thomas J Brown

Supposedly sometime before World War II, Russian experimenter Lakhovsky asked Nikola Tesla to help him design a high voltage generator that could produce electrical energy at many different frequencies simultaneously. A model of the machine was tested by physicians of the time who found that it not only had a 98% cure rate for terminal cancer, arthritis, and other "hopeless" diseases, but that it could rejuvenate plants and animals as well.

No doubt the oscillator works and is an interesting piece of equipment, but I wouldn't stake my health or anyone else's on it. Quack medicine machines were everywhere in the 1920's & 30's. This could well be another.

In this typewritten report you get historical details, wiring diagrams, construction tips, articles on waves that heal, "documented" cases of cure, reprints of the Lakhovsky patents, and a series of reprinted magazine articles on the use of radio frequency waves to cure disease.

Modern physicians have found that electrical fields can speed healing of wounds in some instances. Perhaps this material has some merit, or perhaps it's all a hoax. Maybe it's another suppressed invention. You figure it out. You'll find it interesting reading — a very unusual collection of material. Get a copy. 8 1/2 x 11 paperback 144 pages

Cat. no. 357

\$17.95

Tesla Turbine

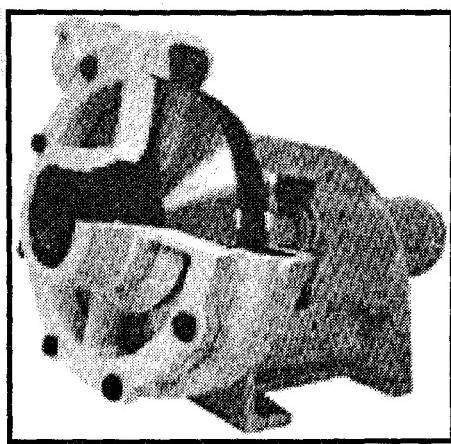
BOUNDARY LAYER BREAKTHROUGH THE BLADELESS TESLA TURBINE

compiled by C. R. "Jake" Possell

In 1909 Nikola Tesla applied for a patent on his bladeless steam turbine that could generate ten horsepower per pound of weight. Actually, the patent granted in 1913 was entitled "Fluid Propulsion" because the turbine could also be used as an efficient pump. Today, Tesla fans claim that this turbine is the solution to many of our energy problems, and that the modern world is ignoring one of the greatest inventions ever. You'll have to decide for yourself.

Here you get a collection of articles on the turbine/pump. Chapters include Tesla's Turbine, A Lighting Machine of Novel Principles, Boundary-Layer fire pump, Tesla's Hover Craft, Bladeless Jet Engines, and much more. Sources range from the New York Herald Tribune and Motor World to Scientific American and papers by Tesla himself.

You get many photos of applications, reproductions of the original patent plus re-



lated patents and much more. You'll get info on sources of plans should you want to build such a device.

This is an offbeat, quality book on an unusual topic. You hear a lot about Tesla's electrical inventions, but little about his mechanical. Get a copy of this. 5 1/2 x 8 1/2 paperback about 185 pages

Cat. no. 1307

\$19.95

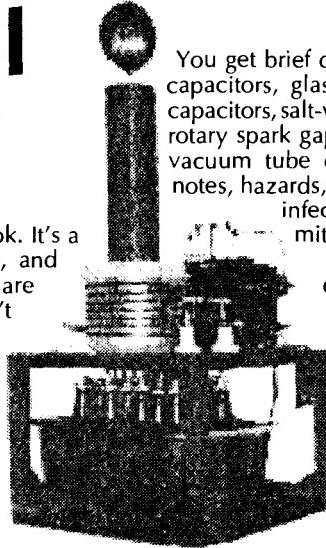
Tesla Coil Plans

TESLA COIL

by George Trinkaus

Here's another Tesla coil book. It's a bit expensive for what you get, and much of it is a repeat, but there are some bits and pieces that I haven't seen.

You get a brief overview of Tesla, his career and his coil. Then you get instructions on building a good sized coil using a neon transformer and a spark gap to drive the primary. The detail is not great but is probably adequate.



You get brief discussions and details on capacitors, glass-and-foil capacitors, oil capacitors, salt-water capacitors, series and rotary spark gaps, a schematic for a 6L6 vacuum tube driven coil, construction notes, hazards, Tesla lighting, ozone disinfector, and magnifying transmitter. All this in 21 pages!

Obviously, the booklet does not go into great detail, but there are ideas and clues here that you might not have thought of yet that might be worth the price and then some. You'll have to decide. Consider it carefully. 7 x 8 1/2 booklet 21 pages

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Practical Math!

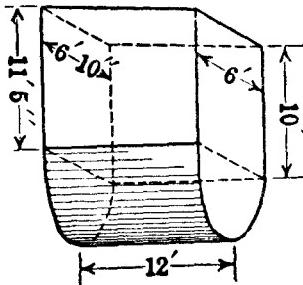
One of the Most Powerful Tools Ever Devised!

PRACTICAL MATHEMATICS FOR HOME STUDY

by Claude Palmer

reprinted by Lindsay Publications

People laugh at me because I carry a pocket calculator in my shirt pocket like any died-in-the-wool nerd would. But the joke is on them. I discovered long ago that math is an extremely powerful tool that can save work, time, and money. Those who laugh



don't know how to harness the power of math. The basic math techniques I carry around in my head and use with my calculator are explained in this book from 1919.

Math is important to mechanics and machinists. It can mean the difference between having a design fail or getting it right the first time. If you're rusty on your math and need a good review, this is the book you should have.

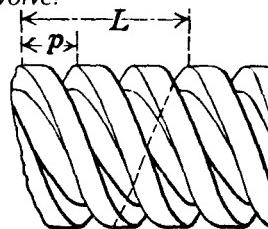
Chapters include common fractions, decimal fractions, short methods, weights and measures, percentages, ratios and proportion, density and specific gravity, and powers and roots.

The geometry chapters cover plane surfaces, triangles, circles, graphical methods, prisms, cylinders, pyramids and cones, spheres, and other solids.

The algebra chapters include notation, formulas and translations, positive and negative numbers, addition and subtraction, exponents and powers, quadratic equations, variation, graphics, logarithms, angles, trig functions, trig tables, right triangle, and more.

You'll learn the math in short, clearly explained lessons. Then you'll be asked to solve problems like "Two steam boilers of the same shape are respectively 12 ft and 15 ft long. Find the ratio of their surfaces." After you solve the problem, you can check it against the answer given.

Another problem asks "To what diameter should a piece of stock be turned so that it may be milled to a hexagon and be 1 3/4 in. across the flats?" -or- "If a wrought-iron bar 2 in. by 1 1/4 in. in cross section breaks under a load of 125,000 lb., what load will break a wrought-iron rod 2 1/2 in. in diameter?" -or- "The pulley on the headstock of a lathe is 3 in. in diameter. This is belted to an 8-in. pulley on a shaft that makes 420 revolutions per minute. At what rate will a block of wood placed in the chuck revolve?"



Triple Threaded

You'll be able to solve these and hundreds of other problems.

If you've forgotten the math you once knew, or you want to expand your abilities, get a copy of this. It's a big book loaded with valuable lessons. The price is a little bit on the expensive side, but the most comparable modern book I've seen sells for more than twice this one.

Get a copy and get going. It's an excellent text. A great reference. Worth having. Order a copy today. 5 1/2 x 8 1/2 paperback 518 pages

Cat. no. 4775 \$12.95

Great Calculus Books!

PROF. E. MCSQUARED'S CALCULUS PRIMER
by Swann & Johnson

This is the craziest math book I've ever seen! I had calc in college but never in comic book form like this! You should order a copy of this and learn what it has to teach.

Calculus is the difference between engineers and non-engineers. If you would like to read engineering texts and understand what they're talking about, you need a calc background. This won't make you a pro, but you'll understand what functions and discontinuities are, limits, and derivatives. You'll pick up the language and be able to understand scientific talk.

It will take work on your part, but I've never seen a more brilliant explanation of what's happening. This is a tool like a lathe or a table saw. Learn this skill, and it will return dividends for all the years you have left to live. An unusual way to learn the core concepts of calc. 8 1/2 x 11 paperback 214 page comic book.

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CALCULUS MADE EASY

by Silvanus Thompson

Fear is often the biggest obstacle to learning math — all those strange symbols! When a calculus book starts out in the first sentence of first paragraph on the first page explaining what the most scary symbols mean, you know it's a good book. The author obviously wants to teach you something rather than scare you.

Any scientist or engineer will tell you calc is a tool not much different from a welder or a lathe. But I took calc from a mathematician in college, and that jerk thought calc was an art form! Most of the time I didn't know what he was talking about (I'm not sure he did either). Who's looking for beauty in numbers? I need to solve problems.

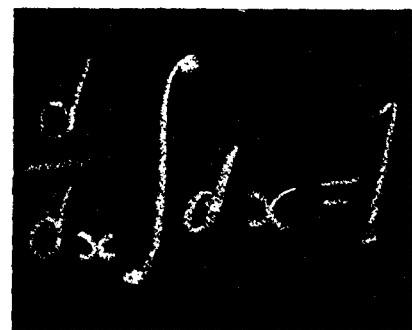
This shows you how useful calculus is. It is as practical an approach as I've ever seen, and the author really takes the fear and confusion out of teaching this math.

Don't get me wrong. Just thumbing through this book is NOT going to teach you calc. You're going to have to work at it. But Thompson's approach is down to earth, and he covers it all: differentiation and integration. And this is 90% of the heavy math you see in engineering books.

A lot of book for the money! If I had had this book at the same time I had that madman mathematician, I probably would have learned a lot more. It's too late for me, but not for you. Order a copy. 5 1/2 x 8 1/2 paperback. 250 pages.

Cat. No. 52

\$8.95



George M. Hopkins's Experimental Science

EXPERIMENTAL SCIENCE

by George M. Hopkins
reprinted by
Lindsay Publications

Fantastic! There is no other way to describe this incredibly illustrated two-volume set from 1906. It is certainly worth having.

Starting about 1889 Scientific American Magazine published a regular column by George Hopkins showing readers how they could build experimental equipment and test their own versions of new inventions such as the electric light, telephone, and phonograph. Hopkins' columns were routinely reprinted in books, and this 25th edition from 1906 had to be split into two volumes. And what a pair of volumes they are!

Build a gyroscope, Foucault's pendulum, a simple hydraulic press, a hydraulic ram, simple air pump, Geissler tube, a recorder for sound vibrations, device for production of sounding waves, a simple phonograph, centrifugal siren, and Norremberg Doubler.

You can build a simple microscope and accessories, or a simple camera with plate holder, make Daguerreotype photos like those from the 1840's (dangerous), experiment with magnets, static electricity, build all kinds of batteries, a device that converts heat directly into electricity, build bells, electromagnets, and even a 1/4 hp electric motor.

In volume Two you will explore AC electricity, arc lamps, high voltage induction coils, and much more. You will build a telephone and a magic lantern. You'll blow glass, grind lenses, make test tube racks, build and fire a crucible furnace, make carbon rods and plates, and much more. Build a simple acetylene gas generator. Experiment with liquid air, diving rods, metal detectors, wireless telegraphy, and high voltage!

Build Amazing Scientific Equipment! A 1906 Classic back in print!

You're expected to have some mechanical ability. The how-to you get is not overly detailed, but you WILL get excellent illustrations that will show you almost everything you need to know. Any additional secrets are pointed out in the text.

Build and operate scientific equipment that hasn't even been seen in decades. Unique science fair projects! You will get hours and hours of enjoyable reading. It's impossible to reveal the scope and beauty of these two books in this limited space, but take my word for it, these are fascinating books. Top quality. Expensive, but worth the price. Put them on your "must have" list...

- **EXPERIMENTAL SCIENCE
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- **EXPERIMENTAL SCIENCE
Volume Two**

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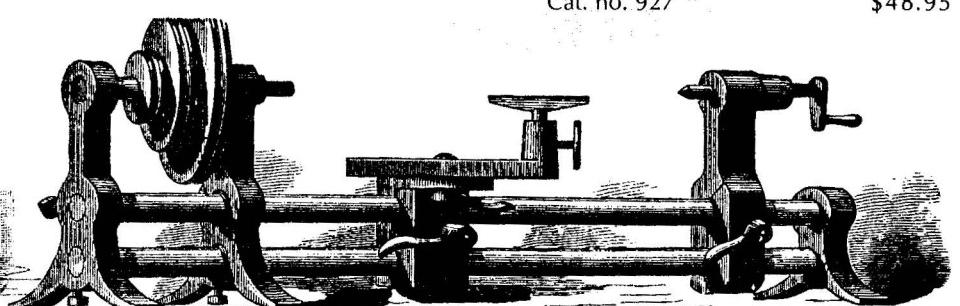
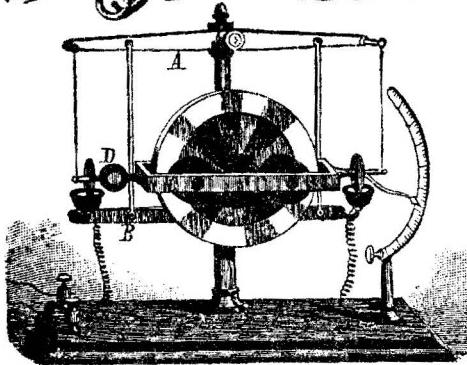
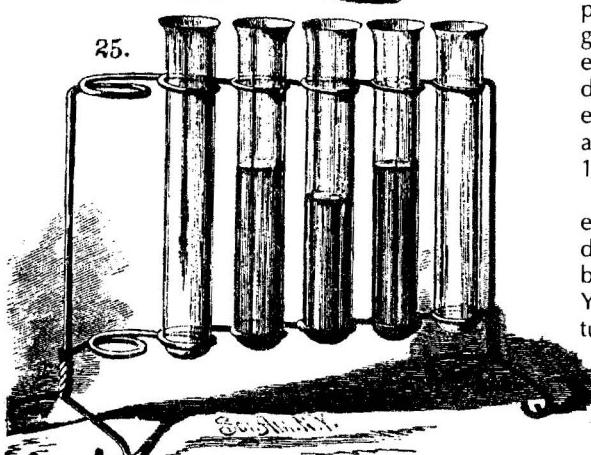
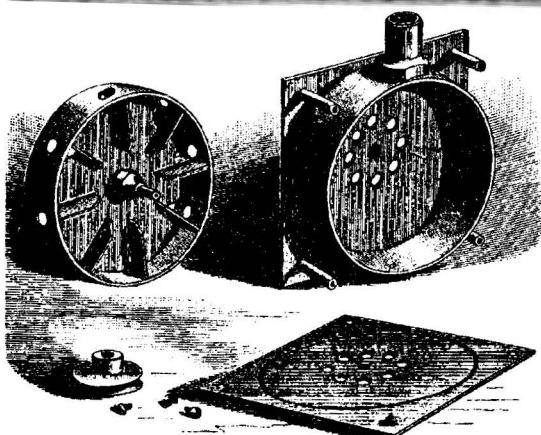
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**MANUAL OF FORMULAS,
RECIPES, METHODS AND SECRET PROCESSES**
*edited by Raymond Wailes
reprinted by Lindsay Publications*

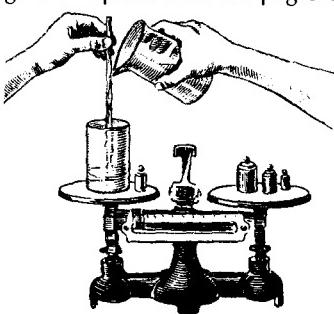
Here's a great low cost collection of hundreds of formulas on just about every subject you can imagine compiled from the pages of Popular Science Magazine and published in 1932. You can make soap bubble liquids, solidified gasoline, waterproof matches, lacquer for brass, silver solder, photographic printing paper, slow-drying putty, blackboard paint, thermite welding mixtures, pewter alloy, garden sprays, soaps, preparations for dance floors(?), concrete waterproofing compound, fireworks, cosmetics, adhesives and much more.

You'll learn how to mix up compounds for polishing and plating metal. Learn how to blacken brass, blue steel, to make silver nitrate from old spoons, mix up low temperature alloys, dry flowers, brew wine, re-ink typewriter ribbons, make blueprint paper, dye cloth, make flypaper and much more.

Unlike other formularies, this one is new enough to be useful and old enough to have unusual formulas. And the price is quite reasonable compared with the large volumes which are interesting but often contain many formulas that are of little practical value. An interesting book of definite value. Worth having. Order a copy today. 4 1/2 x 8 paperback 250 pages

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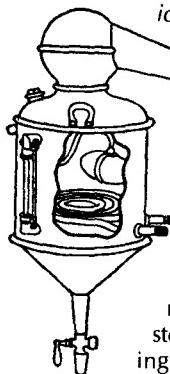


MANUAL OF FORMULAS

HENLEY'S FORMULAS

**HENLEY'S FORMULAS
FOR HOME AND WORKSHOP**
edited by Gardner D. Hiscox, ME

This is a reprint of a standard handbook that first appeared in 1907 and was later revised in 1927. You get "10,000 scientific formulas, trade secrets, food and chemical recipes, and money saving ideas."



You get formulas and instructions for making everything from acid-proofing compounds to preservation of yeast.

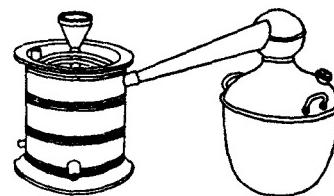
You get a big thick hardcover book (one helluva bargain) covering antiseptics for caged birds, aquarium putty, beer, blue bronze, casket trimmings, clock oil, enamel varnishes, glass etching, marine glue, fireworks, inks for hand stamps, jeweler's alloys, attaching rubber to metal, pickling brass like gold, polishes for aluminum, removal of corns, sarsaparilla beer, skin cream, stove blacking, coloring billiard balls red, waterproofing blueprints and thousands more.

The index is set in really small type and is 23 pages long! Some of the formulas, no doubt, are not too useful anymore. And many of these formulas may be downright dangerous. So you're on your own.

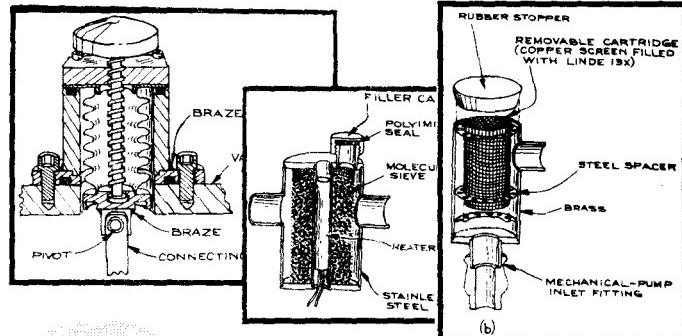
If you're into this kind of thing, get a copy. You're a fool if you don't. It's not all that hard to find an original copy, but this price is a give away! Standard volume of old formulas. Order one now. 6x9 hardcover 809 pages

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BUILD SCIENTIFIC APPARATUS

New 2nd Edition!

**BUILDING
SCIENTIFIC APPARATUS**
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by Moore, Davis, Coplan & Greer

The ultimate equipment book is Procedures in Experimental Physics offered elsewhere in this catalog. This book is the modern equivalent. I don't think this volume in any way surpasses Procedures but it is the closest thing I've seen yet. And it's about equipment built with modern materials.

Chapters include: mechanical design, working with glass, vacuum techniques, optics, charged-particle optics, electronics, measurement and control of temperature. You also get references and a list of manufacturers and suppliers.

You'll learn about metals, alloys and their use in fabrication. You'll learn about bearings, working glass tubing, grinding and drilling glass, vacuum gauges, mechanical vacuum pumps, cryopumps, vacuum system design, cleaning optical components, features of laser design, spectrometers, Fabry-Perot interferometers, photovoltaic detectors, electron gun design, fringing-field correction, charged-particle detection, designing and building electronic equipment and much more.

You get great drawings, charts, diagrams, equations, and more. This is modern hi-tech stuff. IC's and transistors are fabricated from semiconductors, but semiconductors also produce light. You've heard of silicon, probably germanium and gallium arsenide. But how about cadmium telluride? It's available from

Kodak under the name Irtran 6, and transmits out to 31 μm ! What do you need that for? I don't know. But neither will you unless you know this stuff is available. Then your imagination can dream up ingenious new uses.

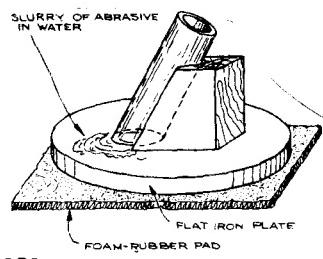
You could be the first in your neighborhood to build a duoplasmatron ion source or a Mach-Zehnder interferometer. You could even put a bellows-sealed, wobble-drive, rotary-motion feedthrough on the mantle. Now wouldn't that raise the eyebrows of the roach exterminator next time he sprays your living room?

Knowledge of the contents of this book will push you beyond the level of the average machinist/handyman. And whether or not you use much of this material is not that important. The more you know, the more creative you can be because you have the raw material to synthesize new ideas. A smart mechanic will use this as an idea book if nothing else.

If you like to build unusual equipment, this belongs on your shelf next to Procedures in Experimental Science. Get a copy! 8 1/2 x 9 paperback 549 pages

Cat. no. 532

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PROCEDURES IN EXPERIMENTAL PHYSICS

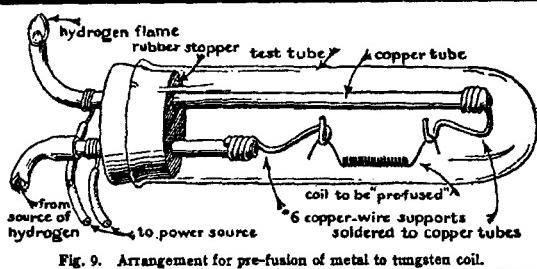


Fig. 9. Arrangement for pre-fusion of metal to tungsten coil.

Wall-to-Wall How-to! Classic Text! Incredible Illustrations!

withstand extreme temperature changes without shattering. Learn how to build micromanipulators and all the rest of the equipment to produce tiny fibers that can be used for suspending the elements of an electrometer, for cross hairs in optical instruments, or for building a balance. The microbalance shown is supposed to be sensitive down to a billionth of a gram per division!

And there's so much more! Build a Compton adjustable quadrant electrometer, a Hoffman electrometer, and others useful for x-ray and cosmic ray work. Build a Geiger counter. You can build your own Geiger-Mueller tube if you master the high-vacuum technique taught earlier. Unfortunately, most of the electronics described is based on vacuum tubes of fifty years ago rather than on transistors.

Build vacuum thermopiles that measure infrared, visible light and ultra-violet so accurately that they can be used to calibrate photographic lightmeters and such. You've heard of carbon arc lights, but do you know how to build iron arc lights? Or low pressure mercury arc lights? And others? You can even build a machine to measure the wavelength of colored light.

You'll find details on hydrogen furnaces, crucibles, burners, electric arc furnaces, and even a lab setup for making artificial rubies and sapphires! And there's much more - even down to what we consider the "easy stuff" like using a lathe and sand casting.

This is a fantastic book loaded with construction secrets for unusual equipment that you should have. First published in 1938, this baby went through a couple of dozen printings! It's a classic. It's incredible. You should have a copy for reference if nothing else. Highly recommended. Order a copy today.

5 1/2 x 8 1/2 sewn paperback 642 pages
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PROCEDURES IN EXPERIMENTAL PHYSICS

by John Stong
reprinted by
Lindsay Publications

If you consider yourself an experimenter, an inventor, or a builder of unusual machines and equipment, you must have a copy of this fantastic classic text. No two ways about it.

You'll find wall-to-wall practical how-to and incredible illustrations on almost every one of the more than 600 pages. Chapters include: laboratory glass blowing, laboratory optical work, technique of high vacuum, coating of surfaces by evaporation and sputtering, the use of fused silica, electrometers and electroscopes, geiger counters, vacuum thermopiles and the measurement of radiant energy, optics, photoelectric cells and amplifiers, photography in the lab, heat and high temperature, notes on the materials of research, notes on the construction and design of instruments and apparatus, and molding and casting.

This is some incredible stuff! Learn how to blow glass and make aspirators, distillation condensers, and so on. Learn how to seal copper to glass so that you can imbed electrodes. Learn how to rough cut lens blanks from large plates of glass and then grind them into lenses on your homebuilt lens grinder. Learn how to make a parabolic telescope mirror using the standard techniques. Learn to make unusual equipment to test the finished mirror. Learn how to grind a Schmidt lens.

Build high vacuum roughing pumps, getters for creating the highest vacuums, and diffusion pumps using mercury and oil. See charcoal traps, kinetic vacuum systems, vacuum gauges of all types. Remember, all this comes with construction details.

Learn how to silver mirrors with a variety of methods including vacuum sputtering. You'll find extensive details on the evaporation technique for aluminum.

Fused quartz is valuable because unlike glass it can

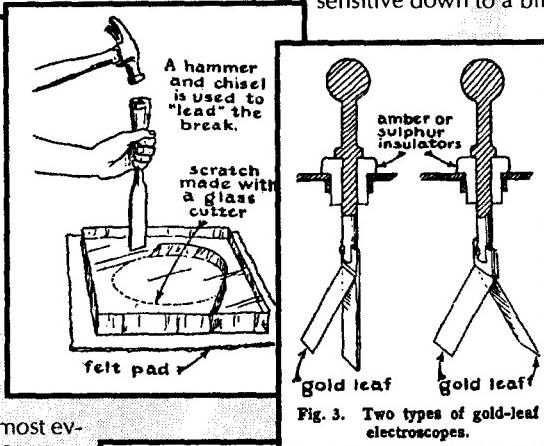
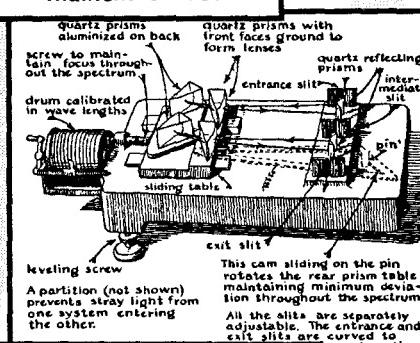
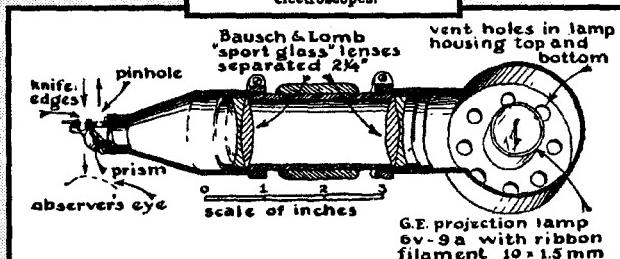


Fig. 3. Two types of gold-leaf electroscopes.



This cam sliding on the pin rotates the rear prism table maintaining minimum deviation throughout the spectrum.
All the slits are separately adjustable. The entrance and exit slits are curved to fit prismatic

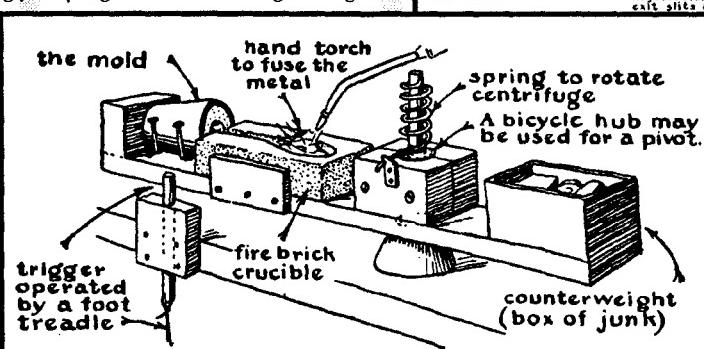
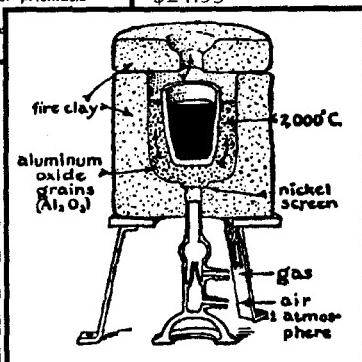


Fig. 9. Lost-wax casting. Centrifuge method for filling the mold.





TURN WOOD

LATHES AND
TURNING TECHNIQUES
by the editors of
Fine Woodworking Magazine

Great articles reprinted from the magazine. Color photos throughout. Great info!

I counted 36 articles with titles like: production tips from an architectural turner, tool rests and turning tactics, boatbuilder's bowls, turning large vessels, lathe duplicators, efficient spindleturning, the Old Schwamb Mill, Vermont Turning School, chasing large wooden threads, economy lathes, heavyweight lathes, the bowl gouge, woodturning chisels, chucks for woodturning, backyard timber, and much more.

A couple of articles of interest are those that will show you how to build a woodturning lathe: a beer-box lathe and shopmade lathes (a big one!). You really don't have to sell the kids to the gypsies to raise the money to buy a lathe. You can build one. Fascinating ideas from people who have done it.

Great how-to. Fun reading. More ideas than you can try in a month of Sundays. Get a copy. 9x12 paperback 127 pages Cat. no. 5006 \$14.95

THE PIANO BOOK BUYING & OWNING A NEW OR USED PIANO

by Larry Fine

"A piano is one of the largest purchases most people will ever make. Yet when you shop for a piano you're up against a vast variety of brands, models, and styles, competing claims, and strange terminology. Finally, here

is a book to guide you through the process with practical information on every aspect of buying a new or used piano.

• Candid brand-by-brand reviews • tips on inspecting and buying a used piano • sales gimmicks to watch out for – and the real differences in piano quality and features • special section on

buying a used Steinway • piano moving, storage, and servicing."

Pianos are complex devices of varying quality. If you're in the market to buy a piano, or if someone gives you one and you want to know if it's worth keeping, this is the book you need. The author delivers more practical information on pianos than I've ever seen in one place before.

Chapters include how the piano works, buying a piano: an orientation, buying a new piano, a consumer guide to new and recently made pianos, buying a used piano, piano moving and

Mysteries of Lightning!

ALL ABOUT LIGHTNING

by Martin A Uman

You'll enjoy this great easy-to-read, highly entertaining book on lightning and its dirty work. From the back cover:

"Does lightning strike twice in the same place? How does a lightning rod work? What is ball lightning? How many thunderstorms are in progress in the world at any one time? Why does lightning zigzag? What is St. Elmo's Fire?

These and many more often-asked questions about lightning are answered in this fascinating and informative guide for the layman, presented in an easy-to-follow question-and-answer format. One of nature's most awesome phenomena, lightning has intrigued man since earliest times. In this book, a noted scientist and expert on lightning dispels many misconceptions while offering a wealth of scientific and technical information about the nature of lightning and its effects.

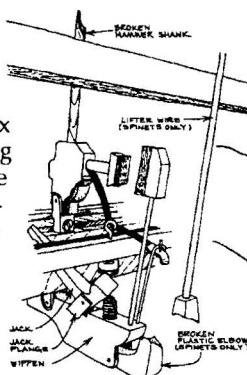
You'll discover how Benjamin Franklin proved that lightning was electrical, how to protect yourself from lightning, how to photograph light-

ning (it's not difficult), the possible relationship between ball lightning and UFOs, what to do for a person struck by lightning, the nature of sheet lightning, ribbon lightning, bead lightning and other variations, and much more. While the overall approach is nontechnical, Dr. Uman has incorporated scientific data in the answers in such a way that laymen will find the book a near-painless introduction to current scientific knowledge about lightning.

Simple, well-drawn diagrams illuminate the text, along with a selection of spectacular lightning photographs, including a remarkable image of 5 lightning bolts produced by the explosion of the first thermonuclear device. In addition, each chapter contains a list of references cited in the text which suggest further reading for anyone interested in finding out more about earth's dazzling atmospheric fireworks."

Fascinating book. Get a copy! 5 1/2 x 8 1/2 paperback 192 pages Cat. no. 5001 \$5.95

If you buy a piano without knowing what's in this book, you're just asking to be ripped off!



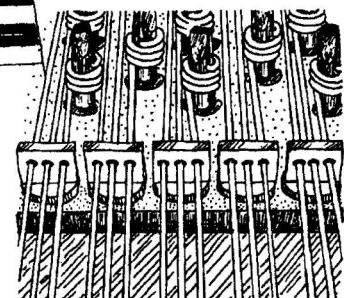
storage, a beginner's guide to piano servicing.

This could



he'll tell you lots, lots more.

This is a really good book with plenty of illustrations. If you buy a piano without knowing what's in this book, you're asking to be taken. Excellent book at a cheap price when you consider how much money and unnecessary grief it could save you. Consider it. 8 x 11 paperback 176 pages Cat. no. 5009 \$14.95



save your rear-end. Open the top of grand piano. Take a educated look at the pinblock. A glance will give you an overall feel for the quality of the machine. And how do you test the feel of the keyboard? Fine will tell you. And

NEON SIGNS

Great How-To on Glass Blowing, Vacuum Systems, High Voltage and more from 1935!

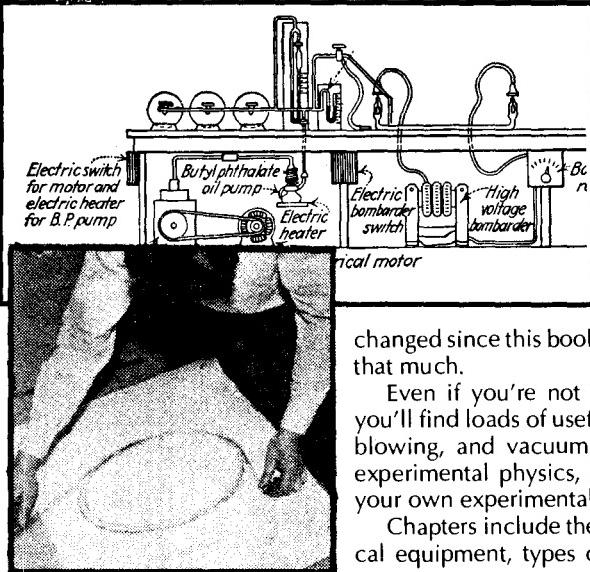
NEON SIGNS
by Miller & Fink
reprinted by
Lindsay Publications

bending, pumping systems, bombarding, filling, testing, aging, installation equipment, special applications, tricks of the trade and more!

This is a quality straight-to-the-point book loaded with diagrams and photographs that you won't find just anywhere. It might be fun to make bizarre neon signs, repair "antique" signs, or just get into the trade. But even if that's not your goal, you'll find loads of unusual, interesting information. Consider this carefully. It certainly is NOT run of the mill. Order a copy. 5 1/2 x 8 1/2 paperback 288 pages

Cat. no. 20340

\$12.95



changed since this book first appeared in 1935, but not all that much.

Even if you're not interested in making neon signs, you'll find loads of useful information on rare gases, glass blowing, and vacuum systems that could be useful in experimental physics, high voltage, or even in building your own experimental vacuum tubes!

Chapters include the luminous tube, materials, electrical equipment, types of signs, designing the sign, glass

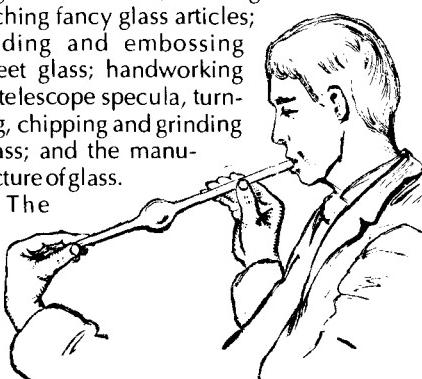
GLASS WORKING

**GLASS WORKING
BY HEAT AND BY ABRASION**
edited by Paul N. Hasluck
reprinted by Lindsay Publications

You can learn to work glass like an expert by studying this collection of articles reprinted in 1903 from the pages of "Work" magazine. You'll learn not only how to make laboratory apparatus, but how to grind telescope mirrors and lenses.

Chapters include: appliances used in glass blowing; manipulating glass tubing; blowing bulbs and flasks; joining tubes to bulbs; making thistle funnels; blowing and etching fancy glass articles; gilding and embossing sheet glass; handworking of telescope specula, turning, chipping and grinding glass; and the manufacture of glass.

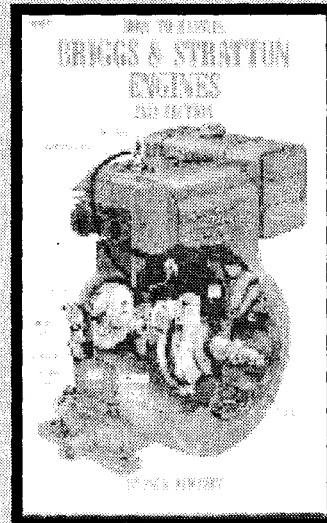
The



information on making glass and grinding lenses is too brief, but the working of glass tubing into useful laboratory objects is detailed and well illustrated.

I'm sure this is not the greatest book on working glass I've ever seen, but it is the best I've seen so far and is well-illustrated. Get a copy. 4x7 paperback 160 pages
Cat. no. 20250

\$8.50



FIX ENGINES

HOW TO REPAIR BRIGGS & STRATTON ENGINES 2ND ED
by Paul Dempsey

With this book and some scrounging you can recycle old Briggs & Stratton engines. Or you can keep your lawnmower going just one more year. Or build an emergency power plant. Or...

Chapters include: basics, ignition, carburetors, governors, starters, charging systems, and total rebuilding. This book is loaded with practical how-to: adjustments, troubleshooting, assembly diagrams, charts, hints and tips and all the rest.

B&S engines are common. It seems that you should be able to pick up junkers and combine the parts to get running engines at little cost. Good basic repair book. Get a copy. 5 1/2 x 8 1/2 paperback 190 pages
Cat. No. 1265

\$9.95

HOW TO MAKE MIRRORS

HOW TO MAKE MIRRORS
reprinted by Lindsay Publications

"The Brashear, rochelle salt, and formaldehyde formulas are given, together with a detailed discussion of the precautions which should be taken to avoid danger and the technique which has been found to yield the most satisfactory results at the bureau. Methods are also given for the production of reflecting films on glass by the chemical deposition of copper, platinum, or lead sulphide, by cathode sputtering, and by the condensation of vaporized metals."

Be warned that should you mix some of the chemicals too strong, there may be a dangerous explosion. But the manual goes into great detail about eliminating the dangers, and the practice of silvering. It is written for the beginner and leaves very little to the imagination. A reprint of a 1931 booklet issued by the Bureau of Standards. Excellent! 5 1/2 x 8 1/2 booklet. 15 pages 2 drawings. Cat. No. 885

\$3.00

Manufacture of Whiskey, Brandy and Cordials

MANUFACTURE OF WHISKEY
BRANDY & CORDIALS

by Irving Hirsch

reprinted by Lindsay Publications Inc

You'll find books on making wine and beer in lots of different places. But finding books on making booze, good, drinkable booze (if there is such a thing...) are almost non-existent. I suspect it has to do with taxes. Making booze is illegal without a government permit. What you get here are the secrets of making booze that you're not supposed to know!

In 1937 the author, a chemical engineer, put together this industrial handbook to teach others how to produce hard stuff. Prohibition had ended, but the Great Depression hadn't. I guess there wasn't much to do but drink...

Chapters include whiskey, treatment of grain, rye whiskey, distillation of liquors, distillery equipment and appliances, manufacture of brandy, of applejack, of pear brandy, of slivowitz, of fruit brandy, of rum, of gin, of miscellaneous liquors, of cordials, blending, maturing of spirits [very important], artificial maturing of spirits [trade secrets?], clarifying liquors, water, sugar and syrup, coloring and much more.

We're not talking about

INCREDIBLE CHEMICAL CROSS REFERENCE!

Decode Obsolete
Old-Fashioned
Chemical Names

LINDSAY'S CHEMICAL CROSS REFERENCE

by Lindsay Publications Inc

If you haven't run into the problem yet, you will. You'll be reading some old chemical formula calling for mirbane oil, salt of satum, or liver of sulphur. A quick check of this handy list of chemical terms would tell you that you need nitrobenzene, lead acetate, or potassium sulphide.

What we did was enter into our computer two thousand chemical equivalents gleaned from a variety of chemistry textbooks, industrial references, and formularies in our reference library dating back to the early 1800's. The computer merged and sorted the lists into alphabetical order. The result is a chemical cross reference.

We have kept unusual and probably incorrect spellings. We have made no attempt to verify that the definitions are correct. What we have done is provide you with one master list of the best equivalents we could find. We've already found it useful, and you will too. Get a copy for your reference library. 5 1/2 x 8 1/2 paperback 44 pages

Cat. no. 20170 \$5.95

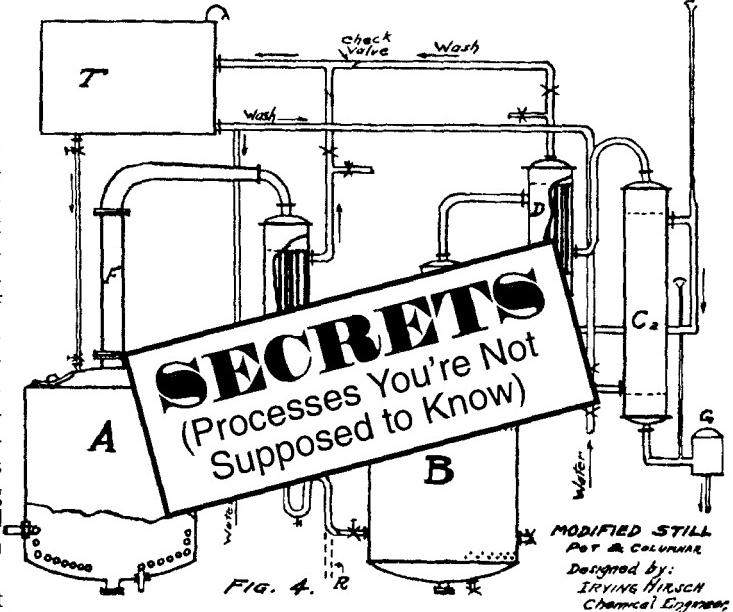
small moonshine stills. And dis ain't "white lightnin'" that tastes like liquid fire. This is good stuff. We're dealing with big stills and big processes the way the pro's did it and are probably still doing it. You get diagrams of many different types of stills, condensers, filters and so on. You get recipes for everything from gin to creme de cocoa. You get useful tips on blending scotch whiskeys, problems that occur if whiskey stays in bond too long, problems with sweating casks and much more.

I'll never make my own booze. I'm too lazy, I guess. Nevertheless I found this book interesting because this kind of information that is never published. It's passed on through apprenticeships. The text is typewritten, and the illustrations are industrial. I get the overpowering feeling that this is information that the government and especially the distilling industry wants to keep to itself.

Excellent, rare information. An interesting book on something that people have enjoyed and gotten into trouble with since the beginning of time. Get a copy and enjoy it. But don't get into trouble. Order a copy today! 5 1/2 x 8 1/2 paperback 183 pages

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Make Soda Pop!

Make your own soda! It's easy! And it's great soda!

Build this remarkably simple device using hardware store components, hook it to a bottle of carbon dioxide, and you're ready to make soda. The major expense is the CO₂ tank and its regulator. But you'll quickly recover that cost in a single summer.

You can make great root beer, carbonate Kool-Aid, Coca-Cola, and other drinks at bargain prices. You can make gallon after gallon of soda water for ice cream sodas or for mixing with your favorite scotch. Experiment!

It's one of the most useful and popular machines (at least with the kids) I've ever built. A single small tank of CO₂ last me about a year, and that's an ocean of soda. Each jug is very inexpensive. Get a copy, and build a soda pop machine! 5 1/2 x 8 1/2 booklet 22 pages

Cat. no. 88 \$3.00

MAKE BOOZE!

Vodka
Gin
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Rum
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Bourbon
and more!

CYCLOPEDIA OF FORMULAS

THE SCIENTIFIC AMERICAN CYCLOPEDIA OF FORMULAS

edited by Albert A. Hopkins

In 1912 Munn & Co. published a enormous books of formulas for almost every imaginable concoction a person might need. Editor Albert A. Hopkins, query editor of the *Scientific American*, compiled this incredible collection 15,000 formulas drawing on, in part, the 28th edition of *Scientific American Cyclopedic of Receipts, Notes and Queries*. The original copyrights run from 1891 through 1910, and the material they cover is brilliant.

I've debated for quite some time about reprinting this book. To reprint almost 1100 pages in a single volume would be astronomically expensive and would require a hefty price tag. No matter how low interest

rates may get, I don't think you want to put a second mortgage on your house to buy a single book.

The solution is to break the main book into nine pieces and reprint the series over time. You can collect all the volumes piece-meal, or buy just the volumes you're interested in. Breaking it into pieces makes it easier for everyone to get access to this information.

What is listed on this page are the volumes that have been printed thus far. Those not listed will appear in future editions of this catalog.

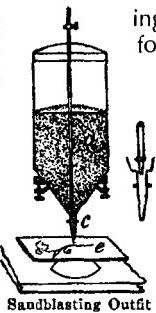
Check these volumes out. It's a great series. One worth having.

VOLUME 4

You'll learn about coloring metals like aluminum, copper, brass, iron and steel and more. You can bronze or frost brass, blue steel or turn it bright black, gild silver or turn it red.

In the section on dyeing you can make Easter egg dyes, dye feathers, hats, gloves, gutta percha, horse-hair, straw and more with dozens of formulas.

Learn to electroplate. You get the details on cleaning, pickling, polish-



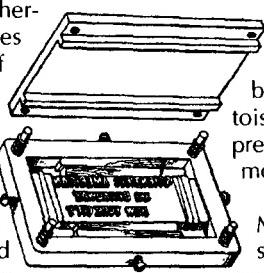
ing and actual plating. You get many formulas for plating aluminum onto copper, putting down brass and bronze on base metals, plating copper and gold, depositing iron, nickel, platinum, palladium, and so on.

Learn to blow glass, cut, drill, etch, frost, gild, and grind glass. Excellent info on making mirrors. More.

Good stuff. 5 1/2 x 8 1/2 paperback
76 pages
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Can and preserve fruit. Apparatus needed. Recipes for blueberries, cherries, crab apples, currants, grapes and more. Make jam and jelly of all types. Make brandied fruits, pickles, catsups. (Anchovy catsup, chutney mango, pickled cherries, and more!) Pickle melons, bottle horseradish, can vegetables for the off season. Preserve eggs, meat, smoke eels and salmon. Make many kinds of mustard, prepares spices and seasonings, sauces, salad dressings and puddings. Make and clarify vinegar — many formulas. Make bak-



ing powder, malted food for infants, yeast, more.

Get the details on rubber, gutta percha and celluloid. Make billiard balls(??), imitation tortoiseshell, artificial rubber, rubber preservatives, vulcanizing and much more.

Formulas for candles. Make one of dozens of different soaps from castile to medicinal and beyond.

Get alloy formulas for all types of solders. Hints and tips.
5 1/2 x 8 1/2 paperback 101 pages
Cat. no. 21346
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VOLUME 9

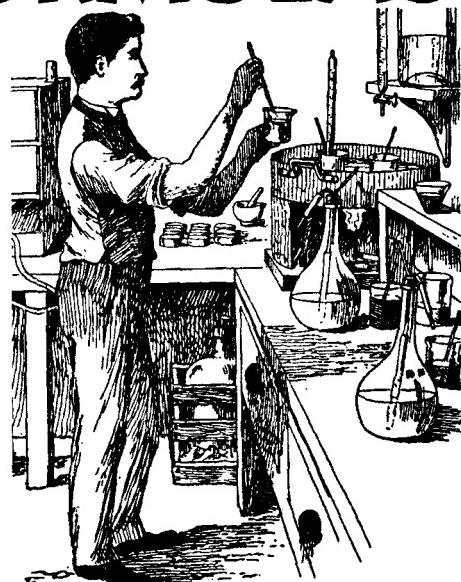
You get explanations, and in some cases illustrations, of laboratory operations which are broken into six categories: comminution, solution and extraction, vaporization, precipitation and separation, heat treatment of solids, and specific gravity. These are brief explanations of manipulations needed to compound the thousands formulas in the preceding eight volumes.

You'll learn about maceration, expression, infusion, evaporating dishes, drying

closets, distillation, precipitation, filtration, and much, much more. Unlike the rest of the Cyclopedia, this section is well illustrated and that makes it even more fun to read.

You also get a section on essential weights, measures and equivalents as well as the master index to all of the volumes. Excellent, practical lab know-how. Interesting reading. Something to have. 5 1/2 x 8 1/2 paperback

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5 - Heat Treatment of Metals, Annealing, Brazing, etc. Household Formulas, Ice Cream, Confectionery and Chewing Gum Insecticides and Extermination of Vermin, Lapidary Art, Artificing in Ivory, Bone, etc., Leather, Lubricants

6 - Paints, Varnishes, Bronzing, Lacquers, etc. Photography

7 - Preserving and Canning, Condiments, etc., Rubber, Soap and Candles, Soldering

8 - Toilet Preparations and Perfumes, Waterproofing and Fireproofing, Writing Materials, Miscellaneous Formulas

9 - Chemical Manipulation, Weights and Measures

HOW TO LOOK THINGS UP AND FIND THINGS OUT

HOW TO LOOK THINGS UP AND FIND THINGS OUT

by Bruce L. Felknor

From the back cover—

"There are thousands of reference books on the shelves of libraries and other research facilities today – all unique and all a little intimidating. *How to Look Things Up and Find Things Out* shows you how to navigate the convoluted and confusing world of encyclopedias, sports almanacs, how-to manuals, library card catalogs, specialized dictionaries, and even computer databases. Its clearly organized, entertainingly written chapters show you how to look up information about the arts, religion, education, industry, technology, recreation, and many other topics.

How to Look Things Up and Find Things Out is a must for anyone who does research for any reason. It is

a map to the world of information that no one – student, teacher, writer, or businessman – should be without."

I shouldn't offer this. I don't like to give away my secrets. But the truth is the better you are at using books to investigate the world around you, the better it is for the both of us. And I'm embarrassed to admit that I've learned more than a few tricks from this book. Consider it. 6x9 paperback 290 pages

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\$9.95

Be A Speed Demon with Numbers!

HOW TO CALCULATE QUICKLY

by Henry Sticker

From the back cover:

"Do you want to double or triple the speed with which you calculate? Can you run a rapid mental check over the results of your calculating machines? Can you check bills worked out for you by grocery store cash registers, on waiters' checks, on department store charge accounts? Or do you simply take their word for the disposal of your money? Don't envy friends who can perform these calculations with lightning speed and complete accuracy. There is not wholly an inborn ability. You can acquire these skills by the methods described in this book.

How to Calculate Quickly is a tried and true method for helping you in the mathematics of daily life - addition, subtraction, multiplication, division, and fractions.

This book teaches those necessary mathematical techniques which schools neglect to teach: Horizontal addition, left to right multiplication and division, etc. You will learn a method of multiplication so rapid that you'll be able to do products in not much more time than it would take to write the problem down on paper...."

If you're not afraid of a milling machine or a ladle full of molten metal, then why should you be afraid of numbers on paper? On in this case, in your head? Math is a tool. Anyone who avoids math because they're intimidated by it is letting an extremely powerful tool go unused. This inexpensive book of tricks can help you get better use from simple math. Valuable for everyone. Dirt cheap. Get a copy. 5 1/2 x 8 paperback 185 pages

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GAS INTO LIQUID!

LIQUID AIR

by T. O'Conor Sloane

reprinted by Lindsay Publications Inc

This fascinating 1899 book is about the unusual machines that take the invisible air around us, cool it, and turn it into a liquid.

You'll discover interesting historical details about early thermometers, how they were built, and how they worked. You'll review the lives, work, and methods of early investigators including Faraday, Natterer, Colladon, Pictet, Cailletet, Olszewski, Dear, Tripler, and of course, Linde. Explore the Joule-Thomson effect, and examine Hampson's apparatus. You'll try your hand at liquid air experiments, and in the last chapter see what 1899 experimenters thought the applications of liquid air should be.

This is not really a how-to cookbook for machines. It is a 17 chapter exploration of early investigators' ideas and their methods. An avid experimenter will find a wealth of detailed data to digest. The important machines and details about them are here in text and diagrams. You will find more enjoyable and useful information on liquid air in this single book than anywhere else that I know of. It might just provide the missing link you need to begin experimenting with very low temperatures.

An unusual book on an unusual topic. High quality. Fascinating topic. Definitely worth having. Get a copy for your reference library. You'll like it. 5 1/2 x 8 1/2 paperback 365 pages

Cat. no. 20021

\$11.95

TEMPERATURES – VERY LOW & VERY HIGH

TEMPERATURES

VERY LOW AND VERY HIGH

by Mark W. Zemansky

For years now my favorite college physics text has been the one by Sears & Zemansky. I discovered it in high school when I wanted to build a gas liquification machine. Now I discover Doc Zemansky has done a whole book on the concept of temperature. Neat!

"This concise study of temperature and its extremes is designed to provide physics students, laymen and the general reader a greater understanding into the total meaning of 'temperature' as a concept....

How are extremes of temperature measured? How are such extremes of temperature produced? What is the international temperature scale? Also covered: Isothermic and adiabatic processes, The Third Law of Thermodynamics, Fusion reactions, Planck's Radiation Law, Energy and entropy, Thermodynamics and negative temperature.

The initial chapters of this volume deal with temperature as it exists in macroscopic physics. The story behind the production and measurement of temperature near absolute zero (-450.67 F) is discussed in the succeeding chapters followed by a review of the production and measurement in the fifty million degree range. And finally, the last chapter goes beyond infinity into the realm of negative temperatures."

Think about it! Build yourself a 50,000 degree plasma torch! What couldn't you cut up with that? Learn how very low and very high temperatures are achieved. As for negative temperature, I haven't gotten to that chapter yet. Inexpensive good reading. Unusual. By someone who knows. 5 1/2 x 8 1/2 paperback 144 pages

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- **Division I** — Chemical Metallurgy; Alloys; and Preparations Made and Obtained from Metals. Iron; Pig or crude iron; Malleable, bar or wrought-iron; Steel; Iron Preparations; Cobalt; Nickel; Copper; Preparations of Copper; Lead; Preparations of Lead; Tin; Preparations of Tin; Bismuth; Zinc; Preparations of Zinc; Cadmium; Antimony; Antimonial Preparations; Arsenic; Quicksilver or Mercury; Preparations of Mercury; Platinum; Silver; Gold; Manganese and its preparations; Permanganate of Potassa; Aluminum; Magnesium; Electro-Metallurgy

- **Division II** — Crude materials and products of chemical industry — Carbonate of Potassa; Saltpeter, Nitrate of Potassa; Nitric acid; Technology of the Explosive Compounds — gunpowder, and the chemistry of fireworks or pyrotechny; Nitroglycerine; Gun-cotton; Common salt; Manufacture of Soda — native soda; Soda from plants or soda-ash; Soda Prepared by Chemical Processes; Preparation of Iodine and Bromine; Sulphur; Sulphurous and Hyposulphurous Acid; Manufacture of Sulphuric Acid; Sulphide of Carbon; Hydrochloric Acid and Glauber's Salt, or Sulphate of Soda; Bleaching Powder and hypochlorites; alkaliometry; Ammonia and ammoniacal salts; Soap making; Boric or boracic acid, and borax; Production of alum, sulphates of alumina, and aluminates; Ultramarine

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- **Division IV** — Vegetable Fibers and Their Technical Application — Hemp; Cotton; Paper making — hand paper, machine paper, pasteboard and other paper; Starch; Sugar manufacture; Cane Sugar; Beet-root; sugar; Grape sugar; Fermentation; Wine-making; Beer-brewing; preparation or distillation of spirits — preparation of vinous mash and distillation of the vinous mash; Bread baking; Manufacture of vinegar; Preservation of wood; Tobacco; Technology of essential oils and resins; Cements, lutes and putty

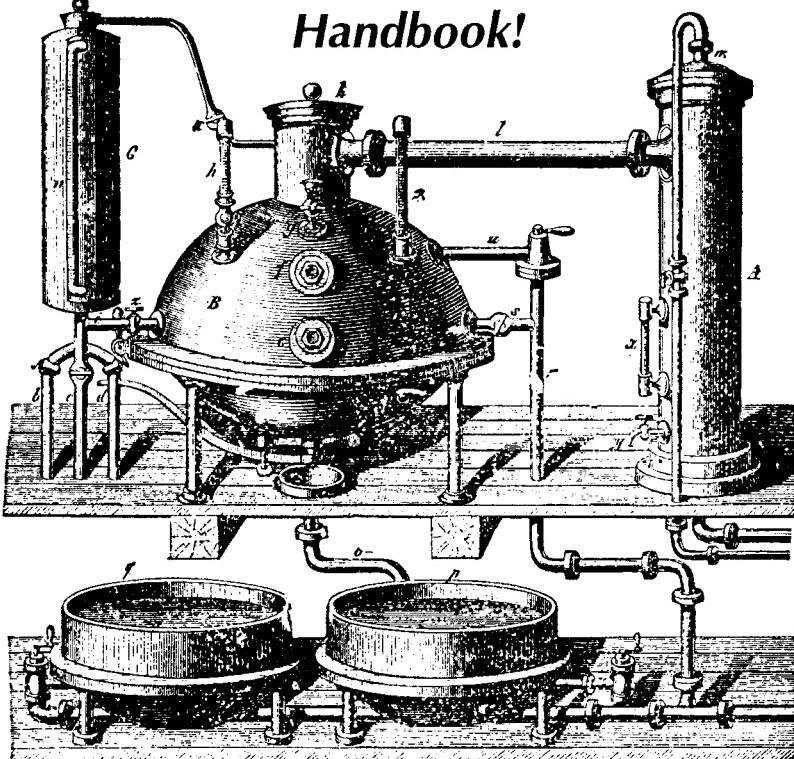
- **Division V** — Animal Substances and Their Industrial Application - Woollen industry; Silk; Tanning; Glue Boiling; Manufacture of Phosphorus; Requisites for producing fire; Animal charcoal; Milk; Meat

- **Division VI** — Dyeing and Calico Printing - Aniline colours; Carbolic Acid colours; Naphthaline pigments; Anthracen pigments; Pigments from Chinchonine; Red Pigments occurring in plants and animals; Blue dye materials; Yellow dyes; Bleaching; Dyeing of spun yarn and woven textile fabrics; Printing of woven fabrics

- **Division VII** — Materials and Apparatus for Producing Artificial Light - Artificial light from candles; Illumination by means of lamps; Gas; Paraffin and solar or petroleum oils; petroleum

- **Division VIII** — Fuel and Heating Apparatus - Fuel; Wood; Peat; Carbonized peat; Brown-coal; Pit coal or coal; Petroleum as fuel; coke; artificial fuel; gaseous fuel; heating apparatus; heating dwelling houses; boiler heating and consumption of smoke

An Incredible 1872 Industrial Handbook!



CHEMISTRY

HANDBOOK OF CHEMICAL TECHNOLOGY 1872

by Rudolf Wagner

translated by William Crookes

reprinted by Lindsay Publications

In the 1872 German chemists were world famous, and Wagner's Handbook was the master reference for chemists the world over. This translation of the eighth German edition can be yours for much less than an original copy should you be able to find one.

And what a book it is!

You'll learn early and/or simple ways of making chemicals, refining metal, formulating glue, paper, dyes or just about anything else chemical in nature. I have never seen such a comprehensive collection of incredible technological detail in a single volume anywhere else.

Want to refine iron ore into steel? Want to make sulphuric acid? And use it to make nitric acid? And use it to make explosives? Care to brew beer? How about a batch of whiskey? A loaf of bread? And on, and on, and on. You get a whole encyclopedia in a single volume — 745 pages of small type with 336 illustrations mostly of manufacturing apparatus.

This is not really a cookbook. You won't find step-by-step instructions. But you will find more detail on a wider

variety of basic essential processes (many of them made obsolete by more complicated processes) than in any other volume. For instance, if you're investigating the tanning of hides, making illuminating gas, charcoal, soap, or anything else, you'll find that this single volume can provide more information in less time than a search through most libraries for a month of Sundays.

Yes, this is an expensive volume, but you actually get more than what you pay for. This is quality. Today we have sophisticated, hi-tech processes that are closely guarded industrial secrets. Here you learn how it was done before large corporations and PhD chemists took over production. Be warned, though. This is old world thinking. You run the risk of poisoning yourself. These methods can be and probably are dangerous.

This incredible classic text will definitely fill a void in your reference library. I've never seen anything like it. And it's almost a sure thing you haven't either. It's expensive, but it's worth every penny and then some. Order a copy. You won't be disappointed.

5 1/2 x 8 1/2 hardcover 745 pages

332 illustrations

Cat. no. 4996

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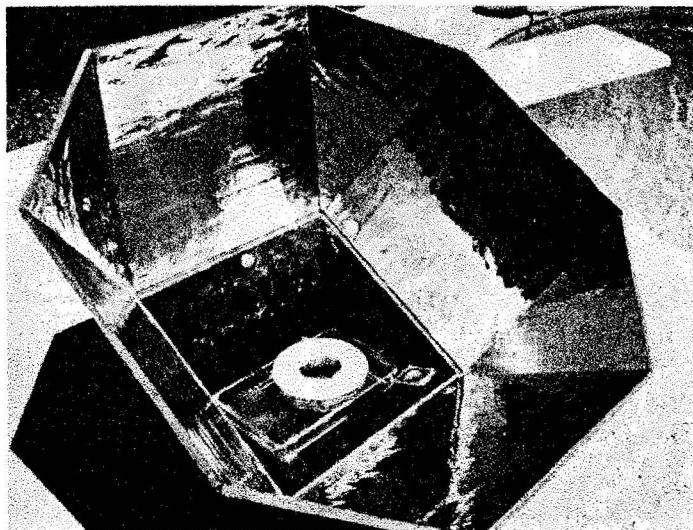


COOKING WITH THE SUN

by Beth & Dan Halacy

You can make a simple solar cooker that can reach temperatures up to 400°. You get detailed instructions on building an oven using plywood, fiberglass

COOK WITH A HOME BUILT SOLAR OVEN!

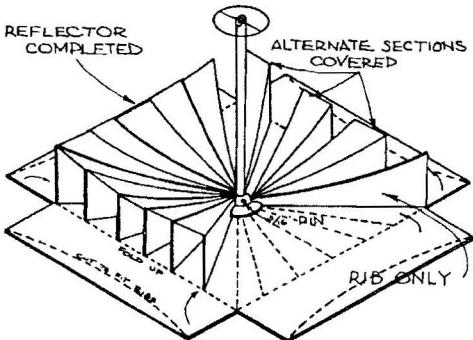


insulation, windowglass and other common hardware. You also get detailed instructions on building a solar "hot-plate" from cardboard and aluminum foil. You also get pictures and descriptions of several other ovens.

Oven construction takes up about 44 pages while the rest of 114 pages covers recipes you can use in your solar oven — everything from bread to casseroles.

Even if you're not interested in cooking, the book is low enough in price and plans are detailed enough to make this worth having if you're interested in tapping into solar energy. Maybe you could scale this up in some way and boil water to heat your house or your alligator pool. Maybe you could lash a steel chair to focal point of one of these cookers and threaten to fry the local street-corner toughs! Wouldn't that make a strange law-enforcement tool?

Good book. These are proven plans. Use as is, or as a starting point in your own experimentation. Think about it. 7x10 paperback 114 pages Cat. no. 2031 \$7.95



MAKE A KITE...

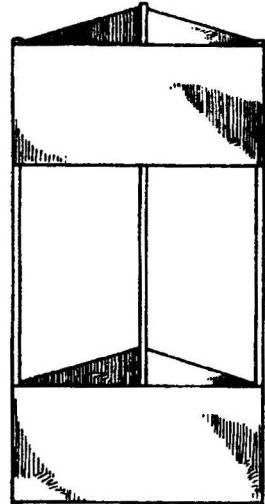
25 KITES THAT FLY

by Leslie L. Hunt

Next time your wife complains that you spend too much time in the shop and not enough time socializing with your in-laws, tell her to go fly a kite. Hand her this book when you do.

Learn about kitemaking in general. Learn how to make tailless kites such as a butterfly kit, a yacht kite, or a bow kite. Or try making a plane-surface kite such as an English kite, five-point kite, or an elephant kite. And you can make compound kites such as a square box kite, a military kite, or a cross kite. You also get chapters on flying hints, accessories you can build, and miscellaneous useful information.

A great reprint from 1929. Low cost! So affordable, in fact, you can give a copy to each of your in-laws, and tell 'em all to go fly kites! ...while you slip off to the shop. Get a copy. 5 1/2 x 8 1/2 paperback 110 pages Cat. no. 467 \$2.95



WILL YOU SURVIVE?

OUTDOOR SURVIVAL SKILLS

by Larry Dean Olsen

From the back cover:

"This is the revised and expanded fifth edition of the classic manual on outdoor survival. Chapters on shelter, fire, water, plants, animals, and special skills explain how to: • build a lean-to; brush, pole, or grass thatch, wickiup; wattlework shelter; snow cave • make fire with flint, bow drill, hand drill, fire saw; make a fire carrier or bundle • obtain drinking water from dew, water pockets, an evaporation still • harvest and prepare food plants in the wild • fashion tools and weapons from stone, bone and wood • make rawhide, tan leather; weave bark and other natural fibers • harvest grasshoppers, ants, grubs; trap, hunt and stalk larger game; make fish hooks, traps and spears"



With this information you can walk into the wilderness with just the clothes on your back and survive! Some people believe that the wackos in the mid-East might bomb us back to the stone age (to quote Gen. LeMay). It might pay to be ready to live like a caveman! Native Americans knew these things two centuries ago. But who knows today? You can! Get a copy. Well-illustrated. 6x9 paperback 224 pages Cat. no. 6041 \$11.95



Homesteading, Survival, Alternate Energy, and more....

WINDMOTORS

WINDMOTORS

by F. E. Powell

reprinted by Lindsay Publications

Put the wind to work with one of these turn-of-the-century designs.

You'll learn about different types of windmills, some of them unusual. Then you'll be shown how to build a model tower windmill similar to those in Holland.

Chapter 3 will show you how to build a real power-producing windmill with three foot diameter sails. It may be a small windmotor, but it can drive a small dynamo. You get all the important design details.

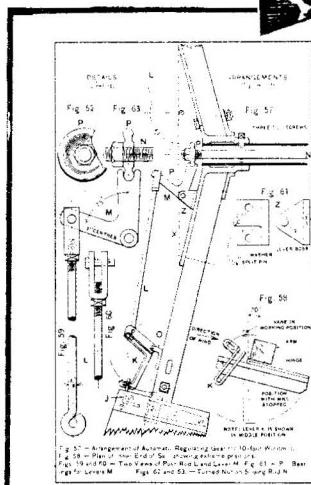
In Chapter 4 you are shown how to build a 6 foot diameter windmill capable of driving a 30 watt dynamo at 16 mph. You'll see many detailed drawings showing how the all-wood machine is built, and how metal gearing brings the power down to ground level.

Another chapter reveals a 10 foot diameter windmotor. The last chapter gives you tips on generating electricity—high tech in 1910! Obviously better generators are available now, but the basic principles still apply, and the control methods still work.

I think you'll enjoy this book. These mills may not be as hot as modern designs, but building one of these babies should be relatively easy and low-cost. You get great designs from a simpler time when simpler materials were used to get surprisingly good performance.

A really nice little book to have. Low cost. Get a copy.
5 1/2 x 8 1/2 paperback 88 pages well-illustrated
Cat. no. 4279

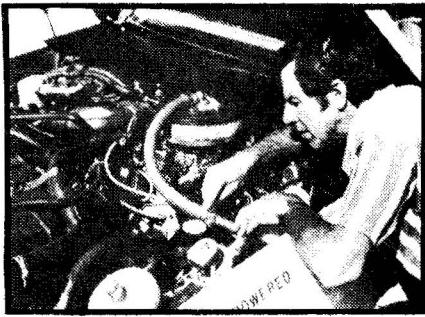
\$6.50



FUEL FROM WATER
by Michael A. Peavey

Here's the best book of its type that I've seen yet. You'll read about hydrogen generators, storage devices, modifications of autos for using hydrogen fuel, the hydrogen homestead and more. You'll learn about batteries and inverters for providing 110 VAC for the home without connecting to the power company. You get lists of manufacturers, other books, and sources of additional information. This well illustrated, typewritten manual gives you what is obviously hard-to-find information.

Nicely done. I'd like to offer more books like this. Rare information. I think you'll like it. 8 1/2 x 11 paperback 80 pages Cat. no. 2010



FUEL FROM WATER

\$16.00

Windpower for Home and Business

WIND POWER FOR HOME & BUSINESS
Renewable Energy for the 1990s and Beyond
by Paul Gipe

Good books and new books on alternate energy are hard to find. Here's one that is both new and good.

From the back cover:

"This is the most comprehensive guide to modern wind machines available. These rugged, cost-effective designs are suitable for homeowners, farmers, and small business owners already served by electricity, as well as for those who want to live 'off the grid,' beyond the reach of utility lines. Whether powering all or only a portion of a user's needs, modern wind turbines make economic and environmental sense today."

Wind Power for Home and Business is for those who want to know how wind energy works, and how they, too, can tap this abundant renewable resource. It explains how to measure the wind, how to estimate the output from typical wind turbines, how to evaluate the best technology for each application, and how to install and operate a small wind power system safely..."

Chapters include introduction, how to use the wind, measuring the wind, how much to expect, does wind pay?, what works and what doesn't, towers, cutting costs – not corners, buying a wind system, interconnection with the utility, stand-alone power systems, pump-

ing water, siting, installation, operating and maintaining a small wind system, safety, looking to the future, and appendices.

You get a well-written information-packed book that will deliver loads of information. By far my biggest complaint is the price. I think it should sell for half the price, but I can't do anything about that. I guess the publishers figure that not that many people are that interested in the wind. And I know from experience how expensive it is to publish small quantities of book. The price has to be high.

The good news is that it IS a good book. The bad news is that you're gonna have to pay if you want it. If you want it, then order it soon. It may soon get bumped out of this catalog in favor of other books. Consider it carefully. 6x9 paperback 413 pages
Cat. no. 2030



\$35.00



BUILD A HOUSE!

BASIC CONSTRUCTION TECHNIQUES for Houses and Small Buildings Simple Explained by Bureau of Naval Personnel

Learn carpentry! Maybe you

could build a regulation Marine barracks in your backyard!

"Many homeowners have at one time or other considered building their own home or adding an extension to their present house. One of the best backgrounds for such home construction is offered by the manual which the U.S. Navy has prepared for use in its own classes.

Detailed chapters cover such basics of construction as: concrete - selecting the mixture, using forms and joints, reinforcing, placing, finishing, and curing concrete, and using concrete for foundations, floors, beams, columns, and walls; masonry - selecting bricks, mortar and patterns, laying concrete blocks, structural clay tile, stone, and brick, insuring watertightness and proper bonding, and using brick for door and window sills and lintels; woodworking - using and selecting tools and materials; rough carpentry - building framings for foundations, floors, walls, and roof; exterior finishing-finishing cornices and roof, installing asbestos-cement siding, insulation and outside wall covering; interior finishing - completing ceiling, walls, stairs, window sashes, casings, and doors, adding baseboards and trim, and plastering, stuccoing, and setting tile; and painting - selecting the paint, preparing surfaces and using techniques for the most efficient and most permanent job.

Other chapters cover related subjects and techniques...."

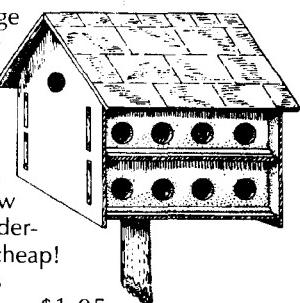
Lots of useful instruction at a reasonable price. Yes, you even get plans for regulation latrines. Your mother-in-law will love that! Get a copy. 6 1/2 x 9 1/4 paperback 568 pages over 675 illustrations Cat. no. 589

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COMPLETE BOOK OF BIRDHOUSE CONSTRUCTION
by Scott Campbell

Build a birdhouse! It's easy. Learn about designing the roof, cleanouts, drainage and ventilation, entrance holes, the interior, the requirements of the birds, how to support a birdhouse, about inspection, pest guards, and more.

When your children or grandchildren ask you how to build a birdhouse, you don't have to admit you don't know how. Whip out this booklet and get underway. Or give it to them as gift. Dirt cheap! Good! 5 1/2 x 8 1/2 booklet 48 pages Cat. no. 6010



\$1.95

BUILD A BOID HOUSE!

PRESERVE YOUR MEAT!

THE CANNING, FREEZING, CURING & SMOKING OF MEAT, FISH & GAME

by Wilbur F. Eastman Jr

Here's a great reference book that will allow you to preserve meat for the future. You get a mixture of plans, tips, how-to instructions, and recipes for preserving all types of meat with all types of processes.

Chapters include Basic Information, Canning, Freezing, Curing, How to Build a Smokehouse, Beef and Veal, Pork, Lamb, Poultry, Game, Fish, and Recipes.

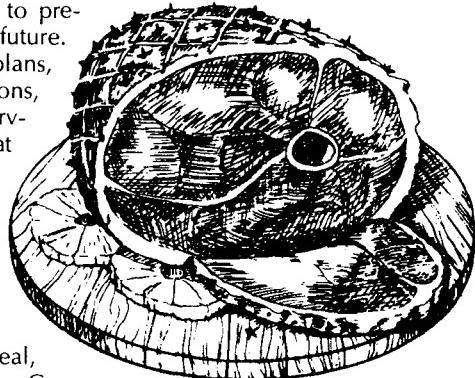
You'll learn to process meat inexpensively and safely. If you hunt, fish, or raise livestock, you can use the techniques of early settlers and explorers who had no refrigerators.

No, I didn't see anything on pickling those pesky alligators that live in New York sewers. Or was it the Chicago sewers? But I did see tips on just about everything else. A classic book first released in 1975 and updated in 1989. Excellent book. Get a copy.

5 1/2 x 8 1/2 paperback 202 pages

Cat. no. 61

\$9.95



Build a Sundial!

SUNDIALS

Their Theory and Construction
by Albert E Waugh

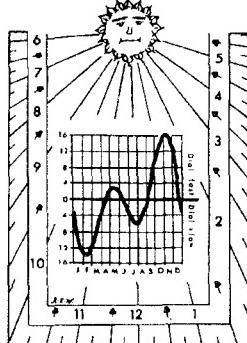
From the back cover:

"Have you ever wanted to build a sundial or to understand how one works?... This book is designed to meet sundialing needs at either the simple or the sophisticated level...."

The subject matter is arranged in 19 chapters, each covering a different aspect of dialling science. All the common types of dials are covered, but the reader can also learn about analemmatic dials, polar dials, equatorial dials, portable dials, memorial dials, armillary spheres, reflected ceiling dials, cross dials and old-fashioned noon marks. There are also sections on dial furniture, mottoes, the actual laying out of a dial, the equation of time, finding time in other cities, how to find the meridian, how to find time by moonlight even how to estimate time from the length of one's own shadow! Directions are given for designing dials for any part of the country, or any place in the world. The author has designed many dials, and his text is filled with helpful hints based on his own personal experience. There are over 100 illustrations, charts and tables, followed by an appendix which is filled with material which reduces or eliminates the need for calculation on the part of the reader...."

Good book - one we've offered in the past. If you haven't built a dial, give it a try. Great science fair or summer project for kids. Inexpensive. Interesting. Get a copy. 5 1/2 x 8 1/2 paperback 230 pages

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\$5.95

The Remarkable Boy Mechanic

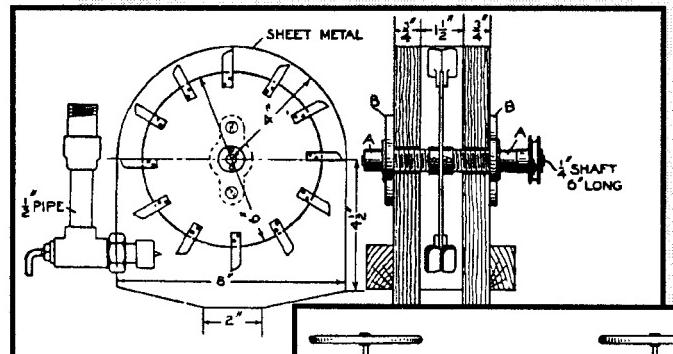


BOY MECHANIC - BOOK 1

compiled by H. H. Windsor
reprinted by Lindsay Publications

"700 Things for Boys to Do. How to construct wireless outfits, boats, camp equipment, aerial gliders, kites, self-propelled vehicles, engines, motors, electrical apparatus, cameras and hundreds of other things which delight every boy."

You may have thumbed through a copy of Boy Mechanic when you



were a kid and dreamed of building just a few of the fantastic projects shown. You probably don't remember this 1913 volume.

You get wall-to-wall projects that in most cases are not too detailed, but are more than enough to whet the appetite and make you want to get started. Build a Wright-brothers style handglider! A Wimshurst machine! An arc light! An electric stove! A toy steam engine! A telegraph key! A water rheostat! An alarm clock chicken feeder! A flat bottomed boat! An induction coil! A library table! A machine to put paraffin on wire! A pipe fitting steam engine! An electric postcard projector! An ammeter! A paper hot air balloon! A workbench!

You'll find information on imitation arms and armor, magic tricks of all kinds, chair carting, sundials, homemade phonographs, gymnasium equipment, an ice yacht, a pipe fitting lathe, a paper boat, a cross bow, an electric motor, glass blowing and much, much more.

Many people have asked us to reprint the Boy Mechanic. One look through it, and you'll see why. It's a combination of practical projects, not-so-practical projects, crazy ideas, and plain ol' fun nostalgia. It's a classic book well worth your consideration. Order a copy today! 5 1/2 x 8 1/2 paperback 469 pages

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BOY MECHANIC - BOOK TWO

reprinted by Lindsay Publications

"1000 things for Boys to Do. How to construct devices for winter sports, motion-picture camera, indoor games, reed furniture, electrical novelties, boats, fishing rods, camps and camp appliances, kites and gliders, pushmobiles, rollercoaster, ferris wheel and hundreds of other things which delight every boy with 995 illustrations."

Learn how to do plane-table surveying and make accurate maps. Once you've mastered that, you'll be shown how to do the same job from carefully taken photographs. Make a four-passenger bobsled, and ice glider, snowshoes, snow-ball thrower, paddlewheel boat, tandem monoplane glider, movie camera and projector, laboratory gas generator, soap box racer, oil burner for cook stove, combination lock for a drawer, magic tricks, electric score board, disc-armature motor, and hundreds of other things.

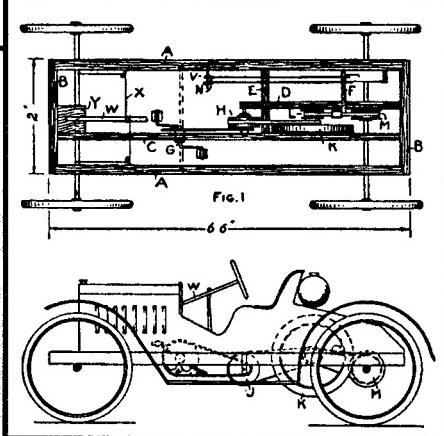
You get wall-to-wall illustrations. You may attempt only two or three projects, but that's okay. You'll have countless hours of fun just browsing through this idea-generating volume from 1915. It's great.

Like volume one, this is a classic worth having. Fascinating! Order a copy. You'll like it.

5 1/2 x 8 1/2 paperback 473 pages

Cat. no. 20676

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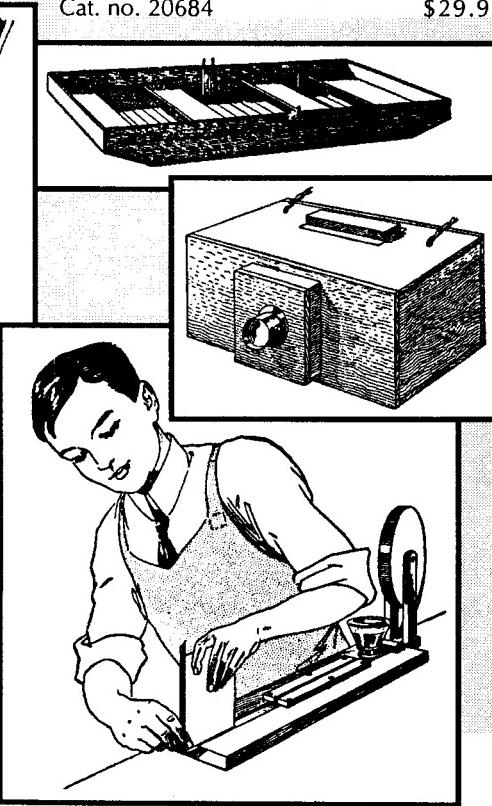


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for libraries and collectors. Only a fraction of the printing has been so bound. May be out of stock for long periods of time depending on supply and demand.

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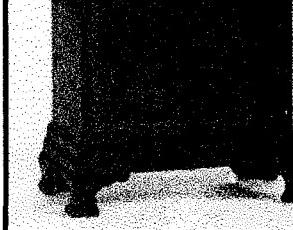
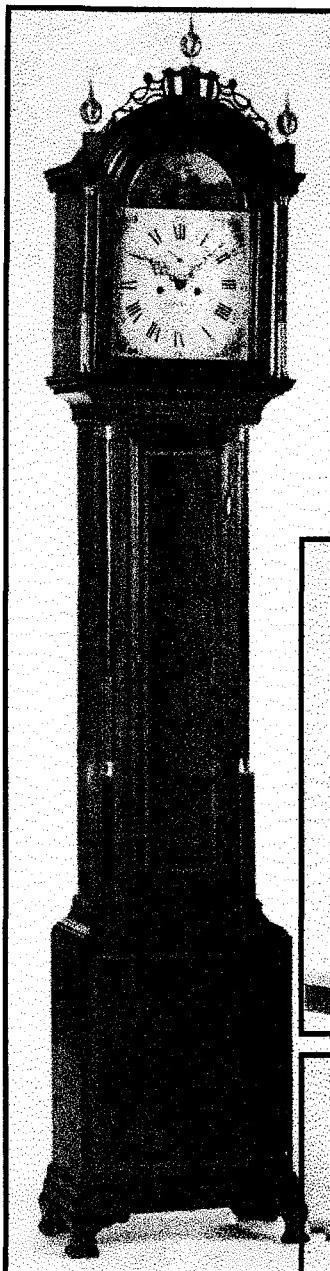
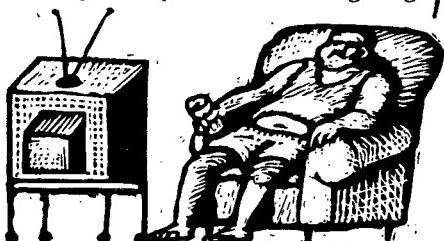
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Don't be a couch potato. Use this catalog to explore life! Get going!



the Old Sturbridge Village Collection – technical data; and a glossary.

You get a book loaded with great photographs of tall (grandfather) clocks, wall clocks and others. You'll see many of the clockwork mechanisms that drove them, their internal details and more. This is simply a beautiful book displaying incredibly beautiful examples of metal and woodworking executed centuries ago.

Expensive but worth having if you're a clock buff. If you're not, you might become one after you see the beauty in this unusual and hard-to-find book. Consider it carefully. 8 1/2 x 11 paperback 173 pages
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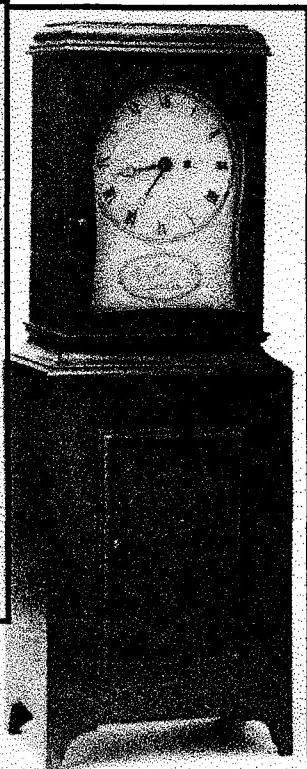
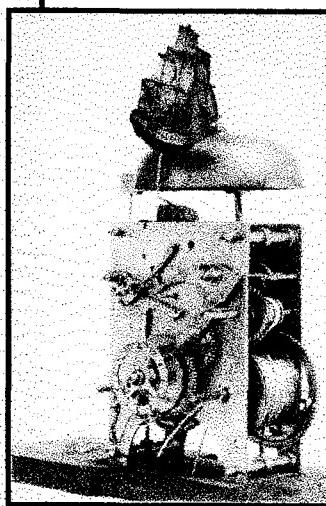
Some of the most beautiful clocks ever made!

CLOCK MAKING IN NEW ENGLAND 1725- 1825

An Interpretation of
the Old Sturbridge Village Collection
by Zea and Cheney

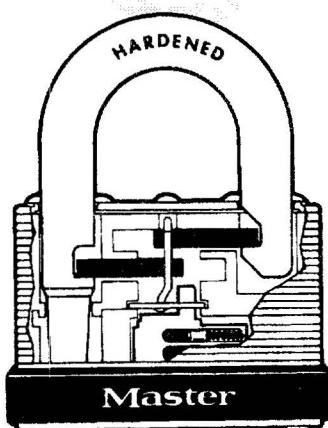
This is an expensive paperback, but it's not something you're gonna find on the magazine rack down at the grocery store. I doubt you would even find this in the biggest bookstores in the biggest cities. It's expensive because it's a quality publication with great photography, much of it in color.

This is a book for collectors and connoisseurs, not builders. But if you want to build a clock this will show you what a master craftsman is capable of producing. Chapters include: introduction - clock making in colonial New England; Elegant Faces and Mahogany cases – clocks by the Willard family; The Willard Legacy – clocks by their apprentices – neat as at Roxbury – clock making in federal New England; a clock for every home – Connecticut's clock makers who the way; spurious timepieces – alarming signs and how to recognize them;



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LOCKS!



LOCKS & LOCKSMITHING 3RD EDITION

by Roper & Phillips

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"Whether you're an experienced locksmith, someone who's just starting out in the locksmithing business, or a do-it-yourselfer who wants to put in his own security system, there is no better place to turn for guidance in selecting, installing, and maintaining today's most advanced locks and security hardware..."

You'll find the very latest information on

- All kinds of locks and keysets – including pad-lock, warded, lever, disc-tumbler, schlage wafer-tumbler, pin-tumbler cylinder, double-bitted, and combination
- Home, business, office, automotive, auxiliary door, and vending machine locks • High-security mechanical locks and electrical access and exit control systems • Master keying systems
- Lock decoding, lockpicking, and emergency entry tools and procedures • The business and law of locksmithing, including standards for locksmith licensing, bonding, and certification
- Lock-smithing equipment manufacturer and suppliers • Plug follower and holder diameters for today's most popular locks..."

This is a book we have offered for many years – updated and better than ever. Loads of illustrations and practical how-to. Excellent book. Order a copy today! 7 1/2 x 9 paperback 437 pages

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RAPE OF THE NILE

by Brian M. Fagan

Hollywood's "Indiana Jones" is a character almost beyond belief. Yet, there were people in Egypt's past who could surpass him. The truth about Egypt is far stranger and fascinating than anything Hollywood can produce.

Here you can read about the tomb robbers, the political intrigue, blackmail, bribery, incompetence, fabulous wealth and disgusting behavior in detail. Join these plunderers as they are confronted by gun-wielding natives, agents of foreign governments,



Belzoni, the greatest plunderer of them all, a real life Indiana Jones greedy politicians, diseases, crocodiles and more.

Join Giovanni Belzoni, a giant of a man, who started shipping artifacts out of Egypt back to wealthy Europeans in the early 1800's. If there ever was a real life Indiana Jones, it would have to be Belzoni. He discovered the tomb of Seti I and many others in the Valley of the Kings. He dug out the temple at Abu Simbel and rediscovered the entrance to the second pyramid at Giza. Join him on his search in the desert for old Berenice during which he almost died of thirst and hunger.

The complete story of Belzoni's race to get the "Younger Memnon", a huge statue, out of Egypt before his rival Burkhardt is here. You can be with him urging his crews to get the statue to the river bank and onto a boat before the Nile could rise. It was an ordeal. That very statue is still on display in the British Museum in London.

Wallis Budge, later director of Egyptology at the British Museum and many of whose books are still in print, was another Indiana Jones prototype. Once while under

Tomb Robbers, Tourists, & Archaeologists

Auguste Mariette, Mohammed Ali (no, not the prize fighter), Napoleon, Gaston Maspero, Henry Salt, Bernardino Drovetti, Jean Francois Champollion, Thomas Young, and all the others. Visit Karnak, Abu Simbel, the pyramids, Philae, the Bulak Museum, and on and on.

It's all here: tomb robbers, tourists, and archaeologists. There has never been a soap opera or movie that can come close to the bizarre tales you'll read here. It's all true! It's fast, fascinating reading. Heavily illustrated. You don't just read about history; you become part of the adventure. Get a copy of this. I think you'll like it. 6 1/2 x 9 paperback 407 pages

Cat. no. 5008 \$14.95



Before the invention of photography in 1839, elaborate drawings were the only method available to record the splendor of Egyptian ruins.



**VIDEO SCRAMBLING
& DESCRAMBLING
FOR SATELLITE & CABLE TV**
by Graf & Sheets

If you have purchased or plan to purchase a satellite dish to capture signals coming from the many Earth-orbiting satellites, this book is for you.

You get:

- An understanding of encoding/decoding systems
- The theory and techniques of video encryption and decryption
- An overview of the rules and regulations governing the availability and use of satellite signals, antennas, and programming materials
- Schematics and details for several encoder and decoder projects.

Originally published in 1987, this book provides detailed information on everything from simple cable encryption systems to commercial satellite systems such as VideoCipher II™, the B-Mac System, and even the Data Encryption standard.

Although the authors are quick to point out that the information is not to be misused in theft of signal, they have provided a wealth of schematics, printed circuit board layouts, IC chip specs, patent reprints, list of satellites and the scrambling systems they use and much more. This is a quality master reference that any video/satellite fanatic will find useful. Order a copy today! 8 1/2 x 11 paperback 246 pages
Cat. no. 370

SERVICING PC-BASED EQUIPMENT

by Don Doerr

Here's a great book to help you service PC computers. The author wrote this in attempt to answer the most commonly asked questions from service technicians. I think he did a good job.

You get detailed flow charts to locate a problem. You can do your own repairs are a fraction of the cost of having it done. And if you DO choose to have someone else do the repair, you'll be able to ask intelligent questions. You'll be able to protect and recover your data. And much more.

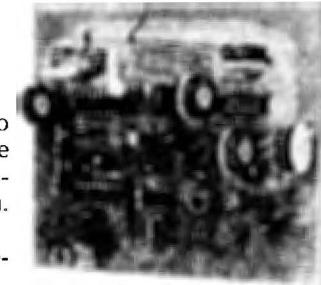
If you take your PC to a dealer with a bad floppy drive, chances are they will replace it with a new one. Yet the author will tell you "floppy drive alignment is one of the easiest and most profitable areas of repair on PCs. Anyone who tells you that floppy drives are not worth repairing is either ignorant of how easily they can be repaired or is trying to ensure job security..." In other words, you can fix your own. Maybe you can make money doing it for others.

You get charts, diagrams, explanations of how components work, what the terms mean, pin configurations for common CPU chips, buses, ROM BIOS, error

codes, and much more.

This is not for raw beginners, but you don't need to be an expert either. This can move you beyond the beginner stage. I just built and configured a high end 486 machine running UNIX, and I can tell you that this is one of the better books on hardware I've seen. I'll guarantee it won't answer every question (no book can), but this is worth the money.

Used PC's are cheap. Buy one and refurbish it. Maybe you can get started in repair. For me, the cost of the book is nickel-and-dime compared to the thousands I've got tied up in hardware that fills your order. Consider it carefully. 7x9 paperback 354 pages
Cat. no. 3005 \$26.95



SCRAMBLERS!

an understanding of encoding/decoding systems

The theory and techniques of video encryption and decryption

An overview of the rules and regulations governing the availability

and use of satellite signals, antennas, and programming materials

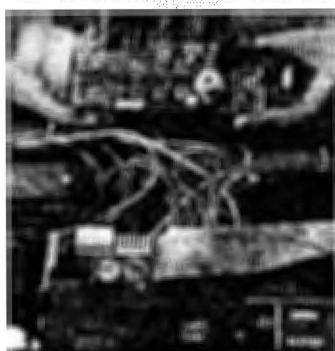
Schematics and details for several encoder and decoder projects.

Originally published in 1987, this book provides detailed information on everything from simple cable encryption systems to commercial satellite systems such as VideoCipher II™, the B-Mac System, and even the Data Encryption standard.

Although the authors are quick to point out that the information is not to be misused in theft of signal, they have provided a wealth of schematics, printed circuit board layouts, IC chip specs, patent reprints, list of satellites and the scrambling systems they use and much more. This is a quality master reference that any video/satellite fanatic will find useful. Order a copy today! 8 1/2 x 11 paperback 246 pages
Cat. no. 370

\$24.95

FIX YOUR COMPUTER!



codes, and much more.

This is not for raw beginners, but you don't need to be an expert either. This can move you beyond the beginner stage. I just built and configured a high end 486 machine running UNIX, and I can tell you that this is one of the better books on hardware I've seen. I'll guarantee it won't answer every question (no book can), but this is worth the money.

Used PC's are cheap. Buy one and refurbish it. Maybe you can get started in repair. For me, the cost of the book is nickel-and-dime compared to the thousands I've got tied up in hardware that fills your order. Consider it carefully. 7x9 paperback 354 pages
Cat. no. 3005 \$26.95



RADIO BUILDER'S

Plugs Into LIGHT SOCKET

The new 603 tube used in this set actually does the work of three ordinary radio tubes, picking up the radio frequency signals, detecting them, then furnishing the audio frequency to the headphones.

Naturally, regeneration is used to make the set as sensitive and selective as possible. A portion of the antenna current flows through the grid plug-in and serves as regeneration control.

The Gains Universal A.C.-D.C. circuit permits the use of any type of power source on alternating or direct current. The bias circuits of the two tubes are connected in series with a 500 ohm rheostat in the filament. In place of a pilot light, a variable 20-300 ohm potentiometer is used. Heating resistor should then be set at 320 ohms.

A small trimmer condenser in the antenna circuit causes set to either a long or short period, and gives added tuning control over the receiving wave stations.

(Continued on page 170)

Please note that with some care and attention, this set can be made to receive shortwave bands. At high frequencies, however, the antenna must be much longer than the wavelength of the waves, and much more wire is required.

It is suggested that the antenna be made of multi-wire concentric cable.

For best results, the antenna should be at least 10 times the wavelength of the waves to be received.

For example, at 15 meters, the antenna should be at least 150 feet long.

For 20 meters, the antenna should be at least 200 feet long.

For 40 meters, the antenna should be at least 400 feet long.

For 80 meters, the antenna should be at least 800 feet long.

For 160 meters, the antenna should be at least 1600 feet long.

For 320 meters, the antenna should be at least 3200 feet long.

For 640 meters, the antenna should be at least 6400 feet long.

For 1280 meters, the antenna should be at least 12,800 feet long.

For 2560 meters, the antenna should be at least 25,600 feet long.

For 5120 meters, the antenna should be at least 51,200 feet long.

For 10,240 meters, the antenna should be at least 102,400 feet long.

For 20,480 meters, the antenna should be at least 204,800 feet long.

For 40,960 meters, the antenna should be at least 409,600 feet long.

For 81,920 meters, the antenna should be at least 819,200 feet long.

For 163,840 meters, the antenna should be at least 1,638,400 feet long.

For 327,680 meters, the antenna should be at least 3,276,800 feet long.

For 655,360 meters, the antenna should be at least 6,553,600 feet long.

For 1,310,720 meters, the antenna should be at least 13,107,200 feet long.

For 2,621,440 meters, the antenna should be at least 26,214,400 feet long.

For 5,242,880 meters, the antenna should be at least 52,428,800 feet long.

For 10,485,760 meters, the antenna should be at least 104,857,600 feet long.

For 20,971,520 meters, the antenna should be at least 209,715,200 feet long.

For 41,943,040 meters, the antenna should be at least 419,430,400 feet long.

For 83,886,080 meters, the antenna should be at least 838,860,800 feet long.

For 167,772,160 meters, the antenna should be at least 1,677,721,600 feet long.

For 335,544,320 meters, the antenna should be at least 3,355,443,200 feet long.

For 671,088,640 meters, the antenna should be at least 6,710,886,400 feet long.

For 1,342,177,280 meters, the antenna should be at least 13,421,772,800 feet long.

For 2,684,354,560 meters, the antenna should be at least 26,843,545,600 feet long.

For 5,368,709,120 meters, the antenna should be at least 53,687,091,200 feet long.

For 10,737,418,240 meters, the antenna should be at least 107,374,182,400 feet long.

For 21,474,836,480 meters, the antenna should be at least 214,748,364,800 feet long.

For 42,949,672,960 meters, the antenna should be at least 429,496,729,600 feet long.

For 85,899,345,920 meters, the antenna should be at least 858,993,459,200 feet long.

For 171,798,691,840 meters, the antenna should be at least 171,798,691,840 feet long.

For 343,597,383,680 meters, the antenna should be at least 343,597,383,680 feet long.

For 687,194,767,360 meters, the antenna should be at least 687,194,767,360 feet long.

For 1,374,389,534,720 meters, the antenna should be at least 1,374,389,534,720 feet long.

For 2,748,778,069,440 meters, the antenna should be at least 2,748,778,069,440 feet long.

For 5,497,556,138,880 meters, the antenna should be at least 5,497,556,138,880 feet long.

For 10,995,112,277,760 meters, the antenna should be at least 10,995,112,277,760 feet long.

For 21,990,224,555,520 meters, the antenna should be at least 21,990,224,555,520 feet long.

For 43,980,449,111,040 meters, the antenna should be at least 43,980,449,111,040 feet long.

For 87,960,898,222,080 meters, the antenna should be at least 87,960,898,222,080 feet long.

For 175,921,796,444,160 meters, the antenna should be at least 175,921,796,444,160 feet long.

For 351,843,592,888,320 meters, the antenna should be at least 351,843,592,888,320 feet long.

For 703,687,185,776,640 meters, the antenna should be at least 703,687,185,776,640 feet long.

For 1,407,374,371,553,280 meters, the antenna should be at least 1,407,374,371,553,280 feet long.

For 2,814,748,743,106,560 meters, the antenna should be at least 2,814,748,743,106,560 feet long.

For 5,629,497,486,213,120 meters, the antenna should be at least 5,629,497,486,213,120 feet long.

For 11,258,994,972,426,240 meters, the antenna should be at least 11,258,994,972,426,240 feet long.

For 22,517,989,944,852,480 meters, the antenna should be at least 22,517,989,944,852,480 feet long.

For 45,035,979,889,704,960 meters, the antenna should be at least 45,035,979,889,704,960 feet long.

For 90,071,959,779,409,920 meters, the antenna should be at least 90,071,959,779,409,920 feet long.

For 180,143,919,558,819,840 meters, the antenna should be at least 180,143,919,558,819,840 feet long.

For 360,287,839,117,639,680 meters, the antenna should be at least 360,287,839,117,639,680 feet long.

For 720,575,678,235,279,360 meters, the antenna should be at least 720,575,678,235,279,360 feet long.

For 1,441,151,356,470,558,720 meters, the antenna should be at least 1,441,151,356,470,558,720 feet long.

For 2,882,302,712,941,117,440 meters, the antenna should be at least 2,882,302,712,941,117,440 feet long.

For 5,764,605,425,882,234,880 meters, the antenna should be at least 5,764,605,425,882,234,880 feet long.

For 11,529,210,851,764,469,760 meters, the antenna should be at least 11,529,210,851,764,469,760 feet long.

For 23,058,421,703,528,939,520 meters, the antenna should be at least 23,058,421,703,528,939,520 feet long.

For 46,116,843,407,057,879,040 meters, the antenna should be at least 46,116,843,407,057,879,040 feet long.

For 92,233,686,814,115,758,080 meters, the antenna should be at least 92,233,686,814,115,758,080 feet long.

For 184,467,373,628,231,516,160 meters, the antenna should be at least 184,467,373,628,231,516,160 feet long.

For 368,934,747,256,463,032,320 meters, the antenna should be at least 368,934,747,256,463,032,320 feet long.

For 737,869,494,512,926,064,640 meters, the antenna should be at least 737,869,494,512,926,064,640 feet long.

For 1,475,738,989,025,852,128,120 meters, the antenna should be at least 1,475,738,989,025,852,128,120 feet long.

For 2,951,477,978,051,704,256,240 meters, the antenna should be at least 2,951,477,978,051,704,256,240 feet long.

For 5,902,955,956,103,408,512,480 meters, the antenna should be at least 5,902,955,956,103,408,512,480 feet long.

For 11,805,911,912,206,816,024,960 meters, the antenna should be at least 11,805,911,912,206,816,024,960 feet long.

For 23,611,823,824,413,632,049,920 meters, the antenna should be at least 23,611,823,824,413,632,049,920 feet long.

For 47,223,647,648,827,264,099,840 meters, the antenna should be at least 47,223,647,648,827,264,099,840 feet long.

For 94,447,295,297,654,528,199,680 meters, the antenna should be at least 94,447,295,297,654,528,199,680 feet long.

For 188,894,590,595,308,856,399,360 meters, the antenna should be at least 188,894,590,595,308,856,399,360 feet long.

For 377,789,181,190,617,712,798,720 meters, the antenna should be at least 377,789,181,190,617,712,798,720 feet long.

For 755,578,362,381,234,425,597,440 meters, the antenna should be at least 755,578,362,381,234,425,597,440 feet long.

For 1,511,156,724,762,468,851,194,880 meters, the antenna should be at least 1,511,156,724,762,468,851,194,880 feet long.

For 3,022,313,449,524,937,702,389,760 meters, the antenna should be at least 3,022,313,449,524,937,702,389,760 feet long.

For 6,044,626,898,049,875,404,779,520 meters, the antenna should be at least 6,044,626,898,049,875,404,779,520 feet long.

For 12,089,253,796,099,750,809,559,040 meters, the antenna should be at least 12,089,253,796,099,750,809,559,040 feet long.

For 24,178,507,592,199,501,618,118,080 meters, the antenna should be at least 24,178,507,592,199,501,618,118,080 feet long.

For 48,357,015,184,398,003,236,236,160 meters, the antenna should be at least 48,357,015,184,398,003,236,236,160 feet long.

For 96,714,030,368,796,006,472,472,320 meters, the antenna should be at least 96,714,030,368,796,006,472,472,320 feet long.

For 193,428,060,737,592,012,944,944,640 meters, the antenna should be at least 193,428,060,737,592,012,944,944,640 feet long.

For 386,856,121,475,184,025,889,889,280 meters, the antenna should be at least 386,856,121,475,184,025,889,889,280 feet long.

For 773,712,242,950,368,051,779,778,560 meters, the antenna should be at least 773,712,242,950,368,051,779,778,560 feet long.

For 1,547,424,485,900,736,103,559,557,120 meters, the antenna should be at least 1,547,424,485,900,736,103,559,557,120 feet long.

For 3,094,848,971,801,472,207,119,114,240 meters, the antenna should be at least 3,094,848,971,801,472,207,119,114,240 feet long.

For 6,189,697,943,602,944,414,238,228,480 meters, the antenna should be at least 6,189,697,943,602,944,414,238,228,480 feet long.

For 12,379,395,887,205,888,828,476,956,960 meters, the antenna should be at least 12,379,395,887,205,888,828,476,956,960 feet long.

For 24,758,791,774,411,777,657,953,913,920 meters, the antenna should be at least 24,758,791,774,411,777,657,953,913,920 feet long.

For 49,517,583,548,823,555,315,907,827,840 meters, the antenna should be at least 49,517,583,548,823,555,315,907,827,840 feet long.

For 99,035,167,097,647,110,630,811,655,680 meters, the antenna should be at least 99,035,167,097,647,110,630,811,655,680 feet long.

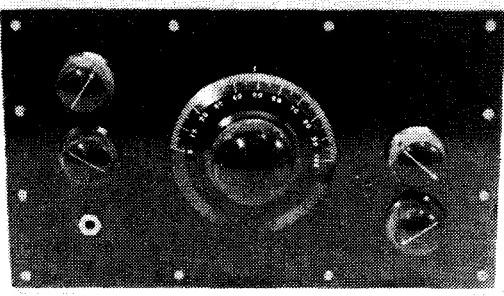
For 198,070,334,195,294,220,121,623,311,360 meters, the antenna should be at least 198,070,334,195,294,220,121,623,311,360 feet long.

For 396,140,668,389,588,440,242,246,640 meters, the antenna should be at least 396,140,668,389,588,440,242,246,640 feet long.

For 792,281,336,778,176,880,484,484,880 meters, the antenna should be at least 792,281,336,778,176,880,484,484,880 feet long.

For 1,584,562,673,556,353,768,968,968,160 meters, the antenna should be at least 1,584,562,673,556,353,768,968,968,160 feet long.

For 3,169,125,347,112,707,535,937,937,320 meters, the antenna should be at least 3,169,125,347,1



Build Solid-State Regenerative Receivers!

Dear Mr. Lindsay:

A good friend of mine has sent me a copy of your re-done Short Wave Radio Manual of 1934, the year, incidentally, that I first received my amateur license. So it takes me back most pleasantly to the days of my youth. That I have enjoyed perusing it very much goes without saying, I believe.

It was also pleasant to read your commentary upon building regenerative receivers at the back of the book. We agree perfectly upon the effectiveness of these devices. Indeed, it was the inception of this that first made practical, long-distance radio possible. A good, properly used regenerative detector may develop a gain of 30 decibels or more, equal to that of three non-regenerative cascaded stages.

But, as you know, one always gets only what one pays for. Buy a fancy, store bought receiver and you pay for results with money. Build a "homebrew" regenerative job, and you pay for it in the effort of building and operating it with patience and care, two words that most people scarcely know any more...

It has been my experience that the good old vacuum tube still makes the most effective regenerative detector, particularly the RF pentode. Next best, in the solid state line is the junction FET, as you suggest. But it takes two of these to do the job of one good pentode tube. However, all the FETs need is a nine-volt battery, no power supply required, a real advantage as you say.

Through the years I've found that the "Throttle Capacitor" mode of regeneration control, along with a properly adjusted tickler coil (as upon page 56, 58, 62, 66 and 259 of your book) is by all odds the smoothest and most effective regeneration control method. For pentode tubes, of course, a pot in the screen circuit is ok, too. But, in general, the capacitor is my favorite - never critical, noisy or "jumpy", I've found. I've also found that when a tube is used, the higher the gridleak resistor the better (my best job used a 20 megohm leak). But for FETs, one megohm seems about right. (Too low and the sensitivity is down. Too high and the thing gets "fussy.") I would disagree, but not argue with, your theory of audio feedback through the power-source. I would feel that the inductive reactive effect of the audio transformer, or choke is the culprit. Pure resistance coupling does not develop "fringe howl," for instance. Also I find that with most FETs, a 1000 ohm source resistor is better than the 2700 ohm one that you suggest in the diagram at the top of page 247.

Building and using regenerative receivers continues to be a pleasurable experience for me. I have tried to get some young fellows of my acquaintance into this sort of activity with negligible success; they'd rather spend daddy's money upon fancy, store-bought gear. They do not realize how much honest education and real, challenging adventure they're depriving themselves of by that attitude. Too bad...

You are doing your part to keep the great self-education process alive and well. Keep it up!

C. F. "Rock" Rockey

Official 1934 SHORTWAVE RADIO MANUAL

Incredible How-To, Reference, and a special new chapter on solid-state sets!

**OFFICIAL 1934
SHORTWAVE RADIO MANUAL**
edited by Hugo Gernsback
& H W Secor
new chapter by T. J. Lindsay

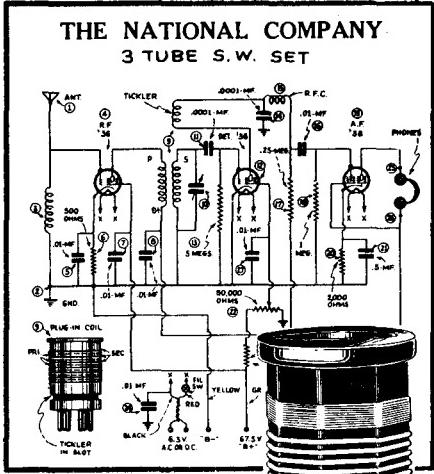
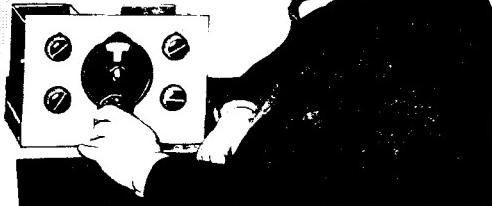
Build simple, high-performance old timeA shortwaver radios! You can. All of the secrets are here: the circuit diagrams, parts layout, coil specifications, construction details, operation hints, and much more.

Back in the 20's and 30's the only low-cost way of listening in on the newly discovered and fascinating shortwave radio frequencies was to build a set. Shortwave construction magazines flourished, even during the depression.

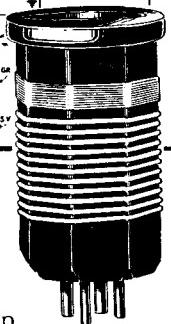
This is a compilation of construction articles from "Short Wave Craft" magazine. It's wall-to-wall how-to.

SECRETS OF OLD SETS! At the rear of the book are circuit diagrams, photographs, and design secrets of all shortwave receivers being manufactured in 1934 including some of the most famous: SW-58, the SW-5 "Thrill Box", the deForest KR-1, the Hammarlund "Comet Pro", and many more.

BUILD SOLID-STATE SETS! You'll find that all the circuits use tubes since transistors hadn't yet been invented. And you'll also find that the original tubes listed are usually difficult to find today. Included is a new chapter showing how you can use transistors to replace hard-to-find vacuum tubes. You'll even see the circuit that was lashed together on a table top one night using junk box parts, one of my wife's hair curlers and alligator clips. When I hooked it up to an antenna strung across the basement ceiling and attached a 9 volt battery, signals started popping in like crazy. In a



couple of minutes I heard an urgent message from a ship's captain off Seattle asking for a navigator to help him through shallow water. Not bad, considering I live near Chicago!



HOT PERFORMERS! These small regenerative receivers are extremely simple, but do they ever perform! I've built dozens of them, and they never fail to amaze me! Even master machinist, Dave Gingery has built these sets.

This is the nuts for the experimenter, the survivalist who is concerned about basic communication, shortwave listeners, ham radio operators who collect old receivers, and just about anyone interested in old-time radio.

Great book. Best old-time radio book I've ever seen. And I look at every one I can get my hands on. Consider it carefully. Even if you never build one of these radios, you'll get hours of enjoyable reading out of this book. Top rate. Order a copy.

8 1/2 x 11 paperback 260 pages
Cat. no. 4643 \$15.95

How to Build Your Radio Receiver

From 1924!
Construction articles
from POPULAR RADIO!



POPULAR RADIO HANDBOOK NO. 1 - How to Build Your Radio Receiver

edited by Banning & Cockaday
reprinted by Lindsay Publications

Today we talk about high tech inventions like space shuttles, computerized virtual reality, and gene-splicing. In 1924 the craze was radio. And it was fed by the amazing discovery that short waves could carry messages around the world.

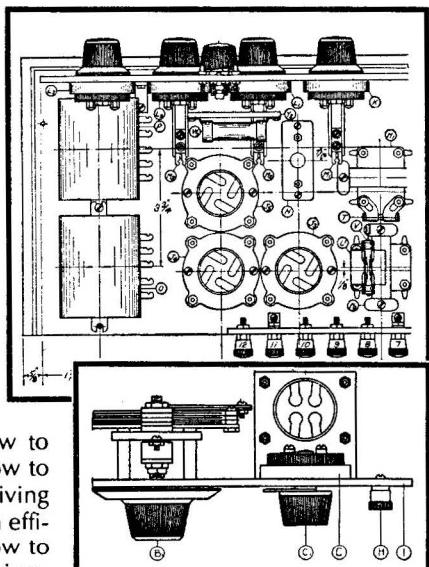
The best thing about radio back then was that just about anybody who could save enough money to buy a vacuum tube could build their own receiver and get in on the fun. (I don't know of anybody who has their own space shuttle...)

The people at Popular Radio published their magazine to cater to the exploding interest. What you get here are the best construction articles from that magazine.

Chapters include: how to read a radio diagram, how to put up an outdoor receiving antenna, how to build an efficient crystal receiver, how to build the Haynes DX receiver, how to build a two-stage audio-frequency amplifier, how to build the four-circuit tuner, how to build a tuned radio-frequency receiver, how to build the improved four-circuit tuner, how to improve the three-tube four-circuit tuner, how to build the new regenerative super-heterodyne receiver, and broadcasting sta-

tions in the U.S. of 50-watt power or more.

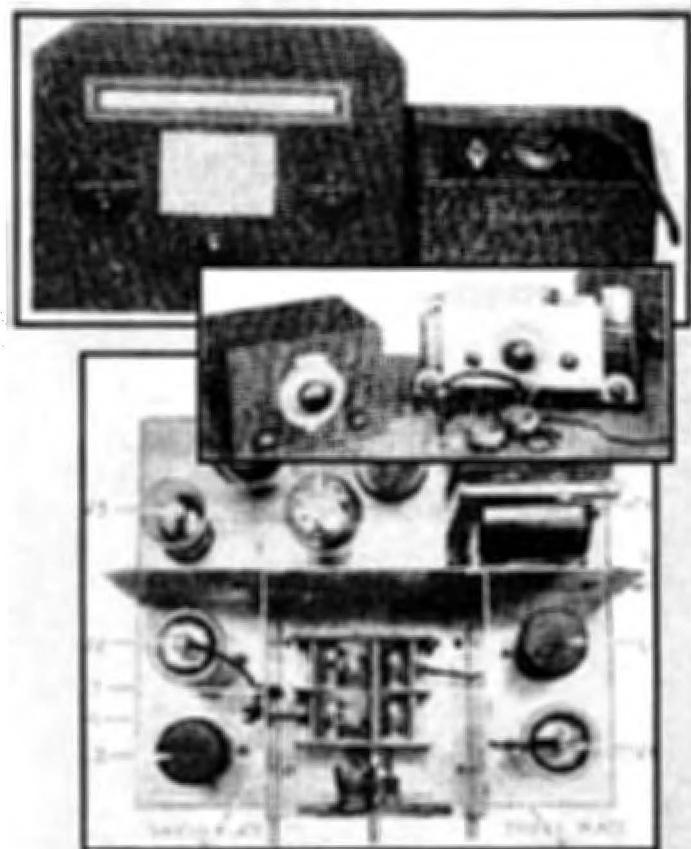
This is old time stuff with four-prong tubes, coupling controlled by moving the coils, bread-board layouts, and 45 volt "B" batteries. You get drilling layouts for the Bakelite panels, dimensions for the cabinets, wiring instructions and more. This is one of the



best early practical how-to books I've seen

If you have radios to restore, or have old parts you'd love to lash up into a working set, then this is for you. For the rest of us it's fun reading. It's technological history! Early radio at its best. Get a copy. 8 1/2 x 11 paperback 104 pages

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Shortwave Handbook

Great 1933 SW Info! Build one of several sets, or buy one of the great new ones!

SHORT-WAVE HANDBOOK

edited by Cockaday & Holze

reprinted by Lindsay Publications

Times were tough in '33, but you could always have some fun building a short wave receiver and tuning into the mysterious signals that filled the air. Radio News magazine published this nifty book to get people started in radio building.

Chapters include fundamental principles, helpful short wave data, how to make five simple short wave receivers, two advance short wave designs, popular commercially built SW apparatus, getting the most out of the short waves, short wave stations lists, short wave DX & reception reports, learning the code, amateur transmitters, and ultra short waves.

Once you're through some of the basic theory of short wave communication, you'll build a basic two tube regenerative receiver, a hot three tube job with RF stage, one of those amazing receivers you can plug right into

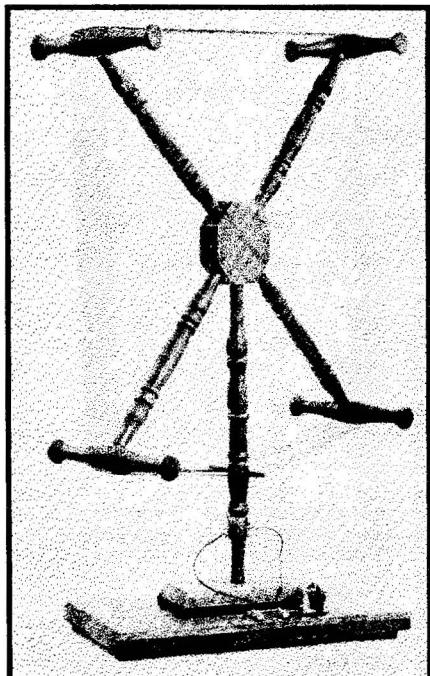
the wall outlet!, a TRF with a regenerative detector and more.

You'll get introduced to the intricacies of the Lincoln R-9 receiver, the American Bosch Model 260 "Super", the Scott deluxe all-wave super, the Hammarlund Comet "Pro", the Midwest sixteen tube super, the incredible National FB-7 receiver and more.

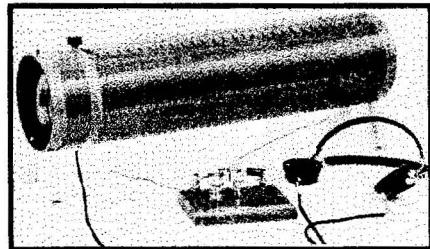
You'll get frequencies and times for listening to PLE from Bandeng, Java and YO1 from Bucharest. You'll learn the code, get your amateur license and even build a crystal-controlled transmitter!

This is a much better than average shortwave book because it delivers details on building your own receivers as well as on commercially available sets. Worth considering carefully, especially if you like to tinker with regeneratives. Get a copy. I think you'll like it. 5 1/2 x 8 1/2 paperback 136 pages

Cat. no. 21176 \$9.95



CRYSTAL SETS!



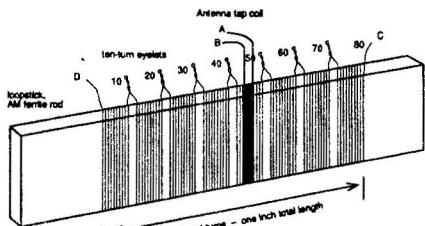
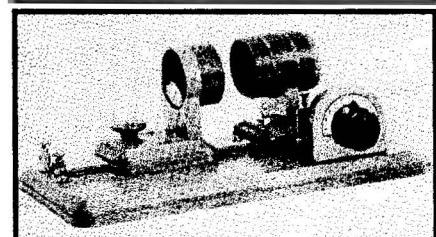
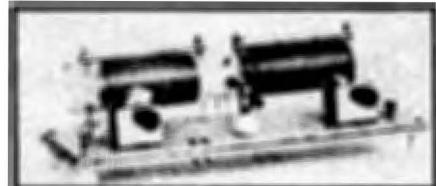
RADIOS THAT WORK FOR FREE

by K.E. Edwards

Build yourself a crystal set! You'll be shown everything you need to know - from materials to tools to techniques. Edwards will show you how to build "hot-rod" crystal sets with fancy features that can outperform the old oatmeal box versions, but are still simple. If you've never built anything electronic at any time but would like to try, this is a great place to start. This book has become a classic in its field, and it gives me a good feeling. I think you'll like it, too. 5 1/2 x 8 1/2 paperback 138 pages — well illustrated

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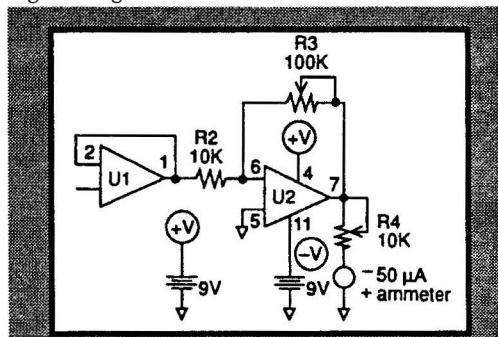


XTAL Set Society

REPRINTS FROM JULY 91 TO MAY 92
by Phil Anderson, WOXI

Radio can't get any simpler than crystal sets! Anyone can build one! But what do you do after you've wrapped an oatmeal box with wire? Here's your answer.

In July 1991 Phil Anderson from Lawrence, Kansas launched "The XTAL Set Society". You should have signed up. But you still can. And! You can find out what you missed by ordering a copy of this reprint of his newsletters for the first year. If you're into crystal sets, you'll find this interesting reading.



You get articles on building a basic field strength meter, a shortwave crystal set, "Why Did Those 1920s Crystal Sets Work Anyway?", a bare bones crystal set, an FM crystal set, a five part compression-capacitor crystal set (with part sources), a list of early articles on crystal sets, a toroidal crystal set, matching your antenna to your set for maximum signal reception, detector analysis, a 20 part crystal set, and other bits and pieces.

Yes, you'll find info on joining the society. Crystal sets are fascinating because of the challenge of getting more performance out of less hardware - a move from complexity to simplicity. That's a refreshing change! I think you'll find this quite interesting. Get a copy! 8 1/2 x 11 plastic spiral binding about 36 pages

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\$10.95

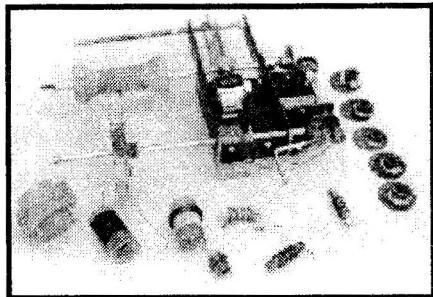
More! Vol. 2!

XTAL SET SOCIETY VOL 2
by Phil Anderson WOXI

More interesting articles from July 92 to May 93 newsletters. Articles include: lead pencil detector, minimum detectable signal, detector biasing for improved sensitivity, double tuned circuits, universal crystal set, FM crystal sets, the electrolytic detector, the coherer revisited, Miller '595' Tuner revisited, and a galena detector from Italy, and more. Good reading. 8 1/2 x 11 plastic spiral binding 39 pages

Cat. no. 3003

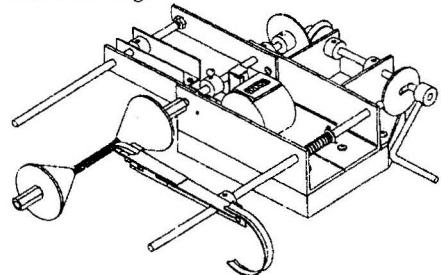
\$10.95



BUILD A UNIVERSAL COIL WINDING MACHINE

BUILD A UNIVERSAL COIL WINDING MACHINE
by David J. Gingery

Just a few years ago, experimenters could buy two or three simple hand-operated affordable coil winders. I haven't seen any of them advertised lately. You certainly can wind coils by hand, but if you're going to do any serious experimenting with old-time shortwave circuits, a coil winder is worth having.



Dave will show you how to build a coil winder from common, easily-obtained materials. Although it may look complex, it really is not. You'll find that it is easy to build. You don't need to be a mechanical genius, or need expensive tools. Yet this amazing little machine will professionally wind universal and honey-comb coils, single layer and multi-layer solenoids, close-wound and space wound coils, and even pi-spaced coils such as used for RF chokes and transformers.

This is a typical Gingery how-to book—loaded with illustrations, dimensions, and step-by-step text that is so detailed it almost holds your hand! Excellent publication. A serious experimenter should have a copy of this and the winder it describes. Order a copy. It's excellent. 8 1/2 x 11 booklet 24 pages

Cat. no. 386

\$8.95

LONG WAVE

There is a very unusual wild and wooly group of experimenters transmitting signals at very low frequencies — VLF. Few people even know they're around. You can join them. You don't need a license.

The FCC says that you may transmit signals without a license at frequencies between 160 and 190 kHz (yes, kiloHertz) so long as your transmitter runs no more than 1 watt input to the final amplifier, your transmission line plus antenna is no more than 50 feet in length, and all emissions from your equipment outside the 160-190 band are suppressed at least 20 db. This is the 1750 meter band.

The LWCA, Longwave Club of America, has been around for twenty years, and publishes the "Lowdown" on a monthly basis. In it are hints and tips from members about signals heard, problems solved, experiments underway and more. In the issue before me is a list of active VLF beacons being heard, construction plans for an active audio filter, notes on using a Hewlett-Packard wave analyzer as a VLF receiver, a review of 624 KITS If receiver converter, and more.

If you want to try your hand at something few people have even heard of, VLF is something to play with. It's easy, and it's low cost. You'll probably have to build your equipment, but that's okay. VLF gear is simple and low cost. The real ingenuity comes in pumping your signal out of a 50 foot antenna.

Listening is fun, too. You can listen to anything your receiver will haul in. Push it down to 24 kHz and you can hear NAA from Cutler, Maine. Or UMS at 21.0 kHz from Petropavlovsk in Russia. These are probably some of the stations transmitting to submerged submarines. From these transmitters would come the launch codes should they ever be needed. And there are mysterious unidentified signals occasionally heard.

This is wide, open, wild radio country, not unlike the way radio was back in the first couple decades of the 20th century. You may not be using a spark-gap transmitter (now illegal), but you'll be using wavelengths comparable to those the pioneers explored.

Annual dues for Longwave Club of America are \$18 for U.S., \$19 for Canadians, and \$26.00 for overseas members.

Longwave Club of America
45 Wildflower Rd - Lp
Levittown PA 19057

A good introductory publication is "The World Below 500 Kilohertz". You'll learn what can be heard and how to hear it. It's available for \$5.95 postpaid from

Universal Radio
6830 Americana Pkwy
Reynoldsburg OH 43068

They accept check, MO, Visa, MC and Discover. You may NOT order it from us. You have to order it from them. Tell them Lindsay sent you.



MICROSCOPES!

THE MICROSCOPE AND HOW TO USE IT
by Dr Georg Stehli

Explore a fascinating world that exists around you, but you can't see. At least, not without a microscope. From the backcover:

"...salt crystals appear as jewels, a drop of water swarms with life, a butterfly's wings reveal a cascade of multicolored particles...

No special knowledge is required. In non-technical language and with generous use of illustration, the author explains how a microscope works and what kind to use; how to adjust the instrument and position the specimens to be viewed; examination of simple objects: a human hair, feathers, milk. At the same time, he shows how to prepare the objects, what to purchase for the purpose, how to care for it; one's every question is anticipated and clearly answered. The ... reader is taken into further exploration: viewing insect parts, diatoms, plankton, molds, leaves, ferns, fruit rinds, fish scales, animal parts.

As we proceed, we learn step by step the techniques involved: use of chloroform, preparation of permanent slides, mounting in glycerine, preparing dye solutions, dissection, blood smearing. We learn how to detect fat, find Vitamin C in food substances, prepare a frog for examination, view and distinguish bacteria, use the oil-immersion objective, dye bacilli spores, do microphotography, cut sections with the microtome. Following Dr. Stehli's careful instructions, we have entered and gone well into the fascinating world of microscopy."

Even with an inexpensive microscope, you can explore a world full of strange creatures, landscapes, and mysteries that have been around you all the time. You won't find a better introductory book for the price anywhere. Pick up a copy and see what you've been missing. 5 1/2 x 8 1/2 paperback 160 pages

Cat. no. 5003 \$3.95

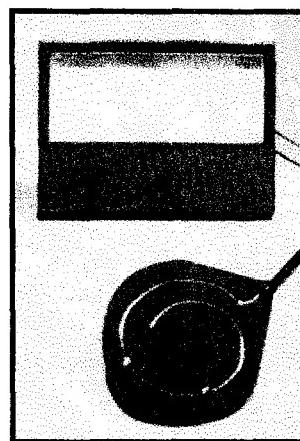
Build a Solar Cell that really works!

HOW TO BUILD A SOLAR CELL THAT REALLY WORKS

by Walt Noon

Yes! You CAN build a solar cell that converts sunshine into electricity. And it's really quite easy.

Modern high efficiency solar cells based on silicon crystals are difficult and dangerous to manufacture. You would need exceptionally expensive equipment just to perform the most basic experiments. But fortunately there is another method.



Walt Noon will show you how to quickly and inexpensively build a copper oxide photo cell. Admittedly, its overall efficiency doesn't come close to modern silicon cells, but neither does the cost. You can crank out cells

for pennies. Connect many cells in parallel and series, and you can generate surprising amounts of power.

The process requires only simple tools. The chemicals, like all chemicals, can be dangerous if mishandled, but the worst is probably nitric acid which is used to thoroughly clean the copper.

He'll show you to make a working cell, test it, troubleshoot it if necessary, and even give you ideas on an experimental painted cell that he's working on. In addition, he'll give you schematics of test circuits, sample applications, and interesting projects that he's tried. You'll also get names and addresses of suppliers.

That author is not a professional, but he has safely built and used these solar cells, and he's willing to show you how it's done. You get a 24 page booklet with many drawings, schematics and photographs that describes the relatively simple process in detail.

Build solar cells! Perhaps you can make some improvement in the process that will improve efficiency. Build electronic equipment. Charge batteries. Build a great science fair project. No matter what your objective, you'll find this to be a fascinating project worth trying. Rare information! Order a copy of this inexpensive booklet today. 5 1/2 x 8 1/2 book 22 page

Cat. no. 819 \$4.95

55 Wild Projects!

Including...

- Jacob's Ladder
- Plasma Sphere
- Induction Coil
- Van de Graaff generator
- Tesla Coil
- Kirlian Camera
- Superconductor Disc
- See-in-the-Dark Viewer
- Robots
- much more!

GADGETEER'S GOLDMINE!

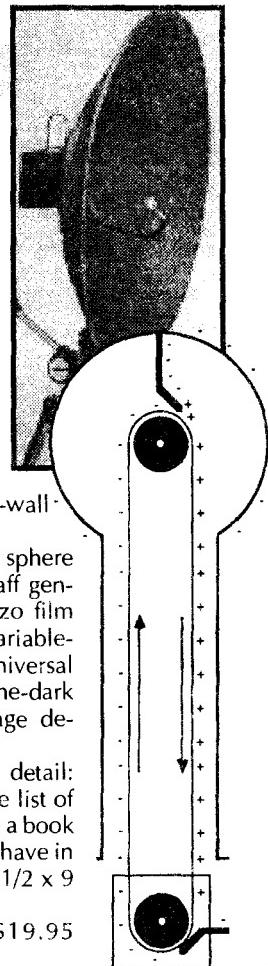
by Gordon McComb

Here, in a single book, are 55 off-the-wall devices you can build.

You get a Jacob's ladder, plasma sphere generator, induction coil, Van de Graaff generator, Tesla coil, Kirlian camera, piezo film speaker and amp, He-Ne laser pistol, variable-rate strobe light, radiation detector, universal receiver, superconductor disc, see-in-the-dark viewer, shape-memory alloy, espionage devices, robots, and more!

And this is good stuff! – plenty of detail: illustrations, diagrams, how-to text. The list of suppliers is quite impressive, too. This is a book every unorthodox experimenter should have in his library and never loan. Get one! 7 1/2 x 9 paperback 406 pages

Cat. no. 383



\$19.95

THINKING WITH A PENCIL!

THINKING WITH A PENCIL

by Henning Nelms

"With 692 illustrations of easy ways to make and use drawings in your work and in your hobbies."

"Originally published in 1957, Thinking with a Pencil was one of the very first books to attempt to break through the conceptual barriers between words and images... It explains how to draw for those who want to use it for that purpose, but the real value is in the fresh techniques of using illustration as a thinking tool and as a means of organizing and presenting ideas."

I know some really talented mechanics and machinists who build new machines by trial and error. If they would only take a few minutes and sketch out their ideas, refine them on paper, they'd find that they'd make fewer mistakes and fewer false starts once they got out into the shop. In other words, thinking with a pencil would make them more successful. I've been doing this for years. You should, too.

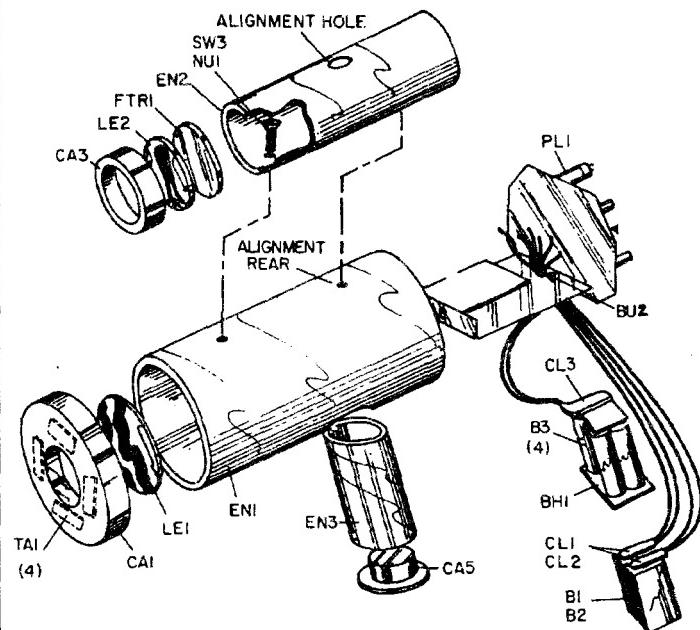
If you don't know how to think with a pencil, then get a copy of this book. It's good. You'll learn everything from drawing, to isometric drawing and more. A lot of book for the money. Master this skill. Order a copy of this classic text today. 6x9 paperback 347 pages

Cat. no. 6023

\$14.95



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LASERS! PHASERS! ION RAY GUNS!

BUILD YOUR OWN LASER, PHASER, ION RAY GUN...

by Robert E. Lannini

Here's one of the most bizarre collections of how-to plans I have ever seen. You'll learn how to build high-power pulsed red ruby laser gun, high-power continuous IR CO₂ Laser, ultrasonic field generator, programmable high-power ultrasonic generator, 250,000 volt Tesla coil, magnetic field distortion detector, solid-state Tesla coil, a variety of wireless "bugs", a super-sensitive parabolic microphone, electronic paralyzing device, battery charger and eliminator and much more.

Iannini is an experienced electronics inventor, and holds many patents. He'll give you parts lists, wiring diagrams, assembly diagrams and all you need to get these projects built. I don't think that it's any coincidence that almost every plan has a footnote telling you that kits are available from Information Unlimited, Inc., which is owned by the author and which advertises in the back of the science and mechanics magazines. No doubt, that firm's best selling plans have been re-

- beginner's simulated laser
- visible red laser
- pulsed laser rifle
- ruby laser gun
- CO₂ laser
- laser light detector
- plain field generator
- phaser shock-wave pistol
- ultrasonic generator
- ultrasonic listening device
- 250 kv Tesla Coil
- ion ray gun
- magnetic field distortion detector
- light-beam communicator
- solid-state Tesla coil
- infrared viewer
- FM voice transmitter
- long-range telephone xmtr
- parabolic microphone
- paralyzing device
- wireless repeater xmtr
- much, much more!

printed in this single volume.

This book is expensive, but it delivers. I really like this, and I'm sure you will too. Order a copy, even if it has to sit for two years on the shelf before you get ready to build. Excellent book. 8 x 9 1/2 paperback 390 pages.

Cat. No. 346 \$17.95

SNEAK PREVIEW

Here's a sneak preview of a couple of new Gingery books being developed. One involves magnets and their use in magnetos and is only in the development stage. The other is well along and in the "shake-down" stage as can be seen in the photo below.

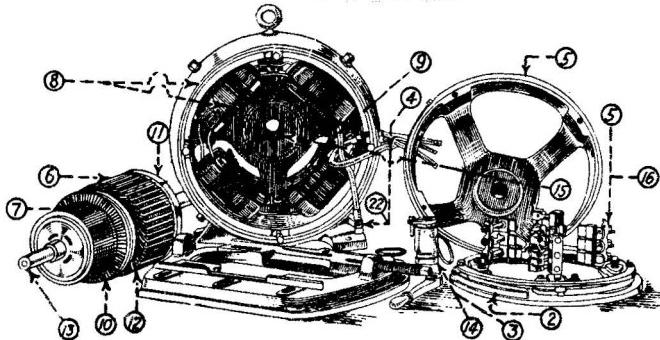


This is a ten-gallon electric still for licensed production of fuel alcohol. It is built with easily-obtained copper sheeting and electrical components, and uses the sheet metal techniques taught in Dave Gingery's book "How to Work Sheet Metal". I suppose if you like to live dangerously and want to risk jail, you could try to brew moonshine. But don't say I told you to do it.

PLEASE! Don't call to ask for details. And WE WILL NOT accept orders in advance. I don't know much more than what I've told you here, and I have no idea when the books will be off the press. But I GUARANTEE you'll see them offered here just as soon as they are ready. I'm sure they will be worth ordering.

Lindsay

ARMATURE WINDING AND MOTOR REPAIR



ARMATURE WINDING AND MOTOR REPAIR

by Daniel H. Braymer
reprinted by Lindsay Publications

From 1920 comes this motor rewinding book loaded with drawings and photographs that will show you how to rebuild both AC and DC machines.

Chapters include: DC machines, AC machines, shop methods of rewinding DC armatures, making commutator connections, testing DC armature windings, operations before and after winding DC armatures, insulating coils and slots for winding, shop methods for rewinding AC machines, testing induction motor windings for mistakes and

faults, adapting DC motors to changed operating conditions, practical ways for reconnecting induction motors, commutator repairs, adjusting brushes and correcting brush troubles, inspection and repair of motor starters and generators, diagnosis of troubles, methods to solve special troubles, tables and more.

You'll find a chapter that shows you how to build special tools and jigs, an armature sling, a pinion puller, coil winding machine, a coil taping machine, commutator slotted, armature banding machine and more.

The motors described are large types used in factories. But the principles apply to the smaller

motors you and I use. You'll learn how to reconnect induction motors for different voltages and phases, how to operate a DC motor as a generator and vice-versa, change the DC motor windings for different voltages, and more.

You'll be taught all the techniques — from removing old windings and cleaning slots, to winding the coils, insulating the end connections, inserting the coils, painting the windings, relining split bearings, and much more. You get data on all types of wave and lap windings, varnishing and insulating materials, and much more.

I make you no promises, but this is the logical place to start should you want to rewind a motor to particular voltage, wind a generator or alternator for use with a windmill or waterwheel, rewind a big generator for use as a welder, modify a DC motor for use in an electric car, and so on.

This is a beautiful book. You get over 500 pages of clearly written, wall-to-wall practical how-to with excellent illustrations. It's a gem that should be in the reference library of most "machine freaks" (that includes you, son). Get a copy 5 1/2 x 8 1/2 paperback 540 pages

Cat. no. 4384 \$18.50

Run Three Phase Motors On Single Phase Power!

Yes! You can run three-phase motors on single-phase power using any one of three excellent methods in use since the turn of the century. First, lathes, drill presses, and other machine tool motors can be run with the capacitor method. Second, the autoformer method (a technique you should buy rather than build) is useful for motors running under continuous full load. And finally you can run a whole shop full of three-phase motors from a single, easy-to-build dynamic converter! No rewinding is necessary. These methods are good to at least 150 hp and 220 volts! Low starting currents and excellent power factor are possible.

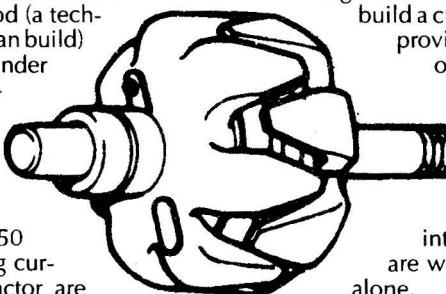
Basic three-phase and induction motor theory is included. This booklet and some experimentation can have you up and running. 5 1/2 x 8 1/2 booklet 15 pages, 18 illustrations — a BARGAIN!

Cat. No. 81 only \$3.00

ALTERNATOR SECRETS!

ALTERNATOR SECRETS

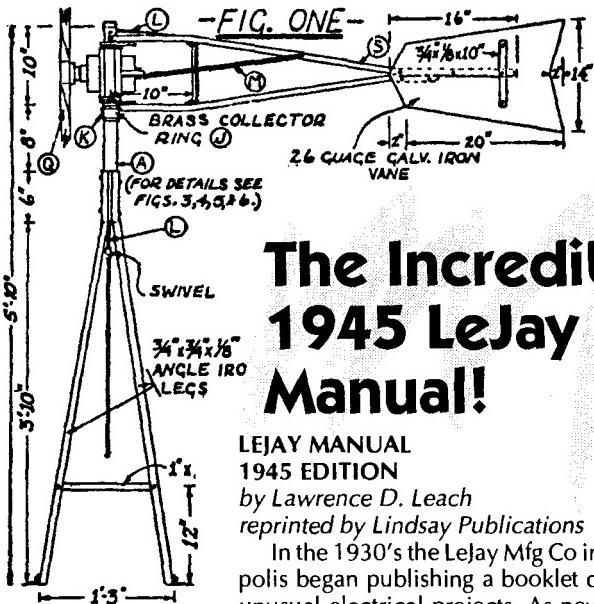
If you know the secrets of modification, you can get large amounts of power from a common auto alternator. You can build a portable powerplant driven by a gasoline engine to run brush-type power tools, lights, and AC-DC appliances at remote locations. You can hot-charge storage batteries, or even do light arc welding. Operation of the regulator is explained so that you can build a custom regulator, if needed, to provide regulated output voltages other than 12.



Learn how you can make almost any ordinary induction motor (like an old washing machine motor) put out 120 volts at 60 cycles without rewinding or internal rewiring. These secrets are worth the price of the booklet alone.

We've jammed a ton of information into 16 pages with small type to keep printing costs down so that we can keep the retail price the same as the old edition. Valuable, rare info! Get a copy. 5 1/2 x 8 1/2 booklet 16 pages

Cat. no. 80 \$3.00



The Incredible 1945 LeJay Manual!

LEJAY MANUAL

1945 EDITION

by Lawrence D. Leach

reprinted by Lindsay Publications

In the 1930's the LeJay Mfg Co in Minneapolis began publishing a booklet describing unusual electrical projects. As new editions came out, new plans were added until by 1945 there were 50 separate "chapters".

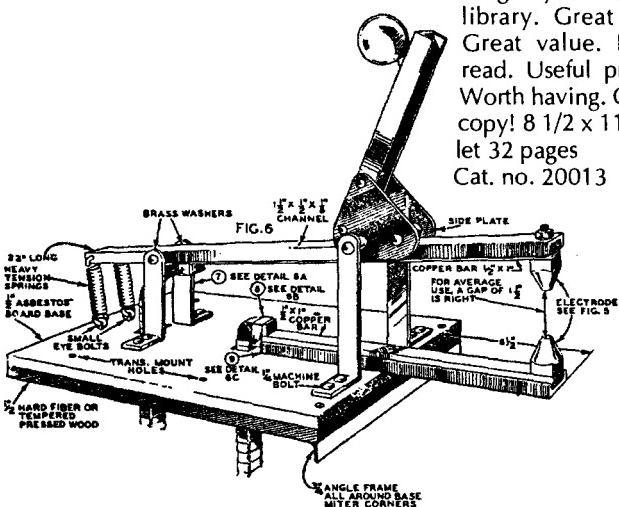
Most of the articles in this edition deal with the conversion with now-antique auto generators into 110 volt alternators, other voltage generators and motors. A lot of this info was used in areas of the country that hadn't been electrified. You could buy old generators from auto junk yards, build a windmill, repair old auto batteries, and use the electricity to run homebuilt motors, welders and so on.

Most of the information in this booklet is now of limited value simply because you can't get the generators listed. But the rewinding data, hints and tips provided can help you in other rewinding projects for other types of generators.

There ARE several projects in this booklet each of which is worth the entire price of the publication. For instance, you can build a small but useful spot welder powered by nothing more than a string of auto batteries. You get plans for an arc welder, a trans-

former spot welder, a carbon-arc torch, electric bicycle, a water wheel, a windmill and more. Each plan is well illustrated.

This is a manual worth having in your reference library. Great ideas. Great value. Fun to read. Useful projects. Worth having. Order a copy! 8 1/2 x 11 booklet 32 pages Cat. no. 20013 \$6.95

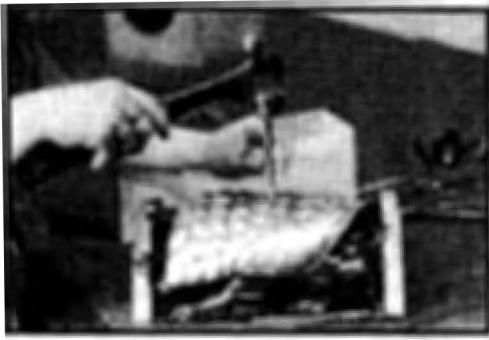


50 Unusual Electrical Projects and Plans

- 1 Plans for 110 Volt AC Light Plant made from Ford Model "T" Generator
 - 2 200 Watt AC Generator for Automobile Made from Ford Model "A" Powerhouse
 - 3 A 6 Volt Slow Speed Generator (with plans for all-metal windmill)
 - 4 6 Volt & 12 Volt Slow Speed Generators from Dodge "G" or "GA" Northeast Generator also from other Generators
 - 5 A 32 volt slow speed wind light Plant Generator
 - 6 One 32 Volt Motor, One 110 Volt Motor, One 32 Volt Generator, One 110 Volt Generator from Dodge Generator
 - 7 How to Make a Grinder, Series Motor, Constant Speed Motor, A Universal AC or DC Motor and a Soldering Iron
 - 8 A 75 to 110 Ampere Arc Welder Made from Dodge "G" or "GA" Generator. Also Dual Welders.
 - 9 Pendulum Type Fence Controller made from Ford "T" Coil
 - 10 Plans for Building a Complete Wind Light Plant Including Tower, Propeller and Generator Charger
 - 11 A 110 Volt AC Light Plant Generator
 - 12 A "B" Eliminator For Your Battery Operated Radio
 - 13 An Automobile Generator Booster Control
 - 14 A 6 Volt Slow Speed Generator from Standard 14 Slot 28 Bar Generator
 - 15 A 32 Volt Constant Speed Generator made from Ford "T" Generator
 - 16 A 2 Volt Slow Speed Generator from Standard 14 Slot 28 Bar Generator
 - 17 How to Convert A 6 Volt Cut-Out for 2 Volt Operation
 - 18 Directions for Repairing Your Own Batteries
 - 19 A Water Wheel Made from Old Automobile Wheel
 - 20 An Electric Outboard Motor from Old Ford "T" Generator
 - 21 A Gas Engine or Motor Driven Generator with Drawings in Detail
 - 22 An Armature Growler for Testing Auto or Slow Speed Armatures
 - 23 Two 32 Volt Series Motors from Dodge "G" or "GA" Generator
 - 24 A 32 Volt Heavy Duty Motor made from Dodge "G" or "GA" Generator
 - 25 A Bench or Breast Drill for 6, 12, or 32 Volts from "T" Generator
 - 26 A 6 Volt Motor for Drill Press, Washing Machines, etc. made from Model "T" Generator
 - 27 One 12 volt Motor and One 32 volt Motor Made from Model "T" Generator
 - 28 Two 6 Volt Generators from the Dodge, also general information
 - 29 A 110 V. or 220 VAC Portable Transformer for Arc Welding
 - 30 A 110 Volt Spot Welder—1 Kw. Input Normal Draw 10 to 11 Amps
 - 31 A Direct Drive 32 Volt Wind Plant – All Metal Construction
 - 32 A Battery Spot Welder
 - 33 Armature Diagrams for Autolite, Bosch-Autolite and Bosch Generators
 - 34 Armature Diagrams for Delco, Delco-Remy, & Remy Generators
 - 35 Armature Diagrams for Ford A, B and V8 Generators
 - 36 Armature Diagrams for Northeast Generators
 - 37,38 Armature Diagrams for Atwater-Kent & Dyneto Generators
 - 39 Armature Diagrams for Leece-Neville Generators
 - 40 Armature Diagrams for Wagner Generators
 - 41 Armature Diagrams for Westinghouse Generators
 - 42 Plans for Installing Lights on Your Tractor
 - 43 Two Types 110 Volt AC Insect Exterminators
 - 44 An Electric Scooter Using a 6 or 12 volt Battery for Power
 - 45 An Electric "Go Bike" Using a 6 or 12 volt Battery for Power
 - 46 A Carbon Electrode Holder for Soldering, Brazing and Light Welding Direct from Six-volt Storage Batteries
 - 47 Ball Type Fence Controller Made from Ford "T" Coil
 - 48 110 Volt AC 500 Watt Self Excited Generator from Dodge Model "G" or "GA" generator
 - 49 110 Volt AC 60 Cycle 1/2 HP Synchronous Motor from Dodge Model "G" or "GA" Generator
 - 50 An AC Welding Transformer Using Dodge Generator Coils
- Appendix: Windpower Information, Definitions, etc

**THE PROP
BUILDER'S
MASK-MAKING
HANDBOOK**
by Thurston James

Here's another great book from the author of *The Prop Builder's Molding and Casting Handbook*. It's well illustrated and top quality.



INCREDIBLE MASK MAKING HANDBOOK!

Making masks can be a lot of fun, but even if you're not into making a mask to cover your mother-in-law's ugly puss, you'll learn valuable lessons in working with materials. And these lessons should be applicable to other projects.

The basic sections include masks and persona, early man and his masks, life masks, the neutral mask, character masks, leather masks and the commedia dell'arte, mask-making workshop in Padua Italy, making a mask in leather, other leather-working techniques, and appendix.

Discover how to make an alginate life mask of that favorite



orthopaedic tape, celastic, and glue cloth. You'll also learn how to decorate the mask with fabric, animal fur, and how to simulate a metal finish.

The second half of the book will show you in detail how to work leather into incredibly beautiful masks. You get all the details on tanning, molds, tools, making

splices, finishing, coloring and more. These are works of art — something to be proud of.

You'll learn how to turn sheet metal into a beautiful



person in your life (other than your dog or bartender). Make positive and negative molds, and make a positive plaster copy of the life mask.

Make a plaster negative mold from an original mask design and use it to make paper mache, latex rubber, neoprene or "friendly" plastic positives. You can make a positive gypsum cement mold. And you'll learn how to create a mask from a positive mold by vacuum-forming, thermoplastic

mask with chasing and repousse. Then you'll learn the techniques involved in producing fantastic halloween masks. You'll learn skills and secrets. You may be able to make big bucks since masks are popular decorating items. Who knows?

Excellent book. Wall to wall how-to. Heavily illustrated. A book definitely worth having. Get one! 8 1/2 x 11 paperback 203 pages

Cat. no. 1340 \$19.95

VERY BAD TASTE! *Join us red necks and enjoy life!*

THE ENCYCLOPEDIA OF BAD TASTE *by Jane & Michael Stern*

I know for a fact YOU'LL enjoy this hilarious, well-illustrated book because you have proven beyond any reasonable doubt that YOU have no taste whatsoever. How do I know? You're reading this catalog....

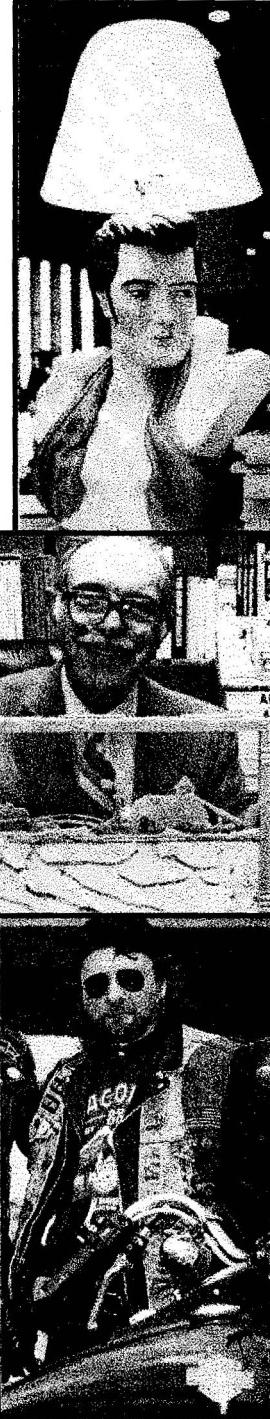
You get an entertaining and amusing history and illustrations on every imaginable example of bad taste from accordion music to zoot suits. And if you think you're really a smooth dude, you had better think again. You ain't nothin' fella if you eat Twinkies and Spam, watch your ant farm, think Dolly Parton is a babe, watch professional wrestling from your reclining chair, drive your van to visit a wax museum, collect sno-globes and Hummels, and enjoy heavy metal music.

This is a great book. After all the authors put down (and rightly so) all the good things in life from Barbie dolls, beer and big breasts to Frederick's of Hollywood to Bob Guccione.

Get a copy. Get your feelings hurt. Or give a copy to someone who needs his feelings hurt. Join the rest of us low-class red necks and enjoy life. (If I can sell enough of these encyclopedias, perhaps I can buy some fuzzy-dice for my rear view mirror and a video tape of Liberace!)

Fun book. Lot's of laughs. Valuable weapon for knocking snooty people down off their pedestals. Order a copy! 9x10 paperback 331 pages

Cat no. 6048 \$16.00



Build the 1924 NBS Crystal Set Receiver!

Complete plans, parts lists, templates, and how-to in "How To Build Your Radio Receiver" described elsewhere in this catalog.





THE PROP BUILDER'S MOLDING & CASTING HANDBOOK

by Thurston James

Try this! Take a dead carp and make a couple two-part plaster molds before it starts to decompose. Then make urethane castings with the molds. These are the Hollywood uses to make scenes for movies.

This is a great book all about making molds and casts for theatrical uses. You'll learn about one- and two-part plaster molds, a two-part mold using the shim method, molds from dental alginate and moulage, and a variety of molds using latex rubber, Silicone RTV rubber, injected Silicone molds and more.

The Secrets of Casting Almost Everything Except Metal!



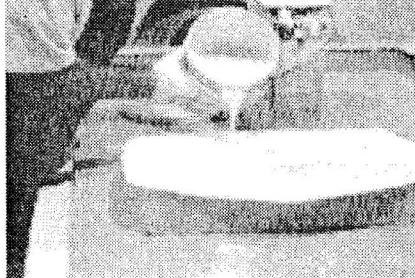
You'll learn what type of release compound to use for each combination of mold and casting material.

Then you'll learn how to do absorption casting with latex and neoprene casting rubber. You can make papier-mache, Celastic and fiberglass casts. You can cast with hot melts such as wax, machinable wax, hot plasticine, hot melt glue, and hot melt rubber. You can make fake "glass" bottles to break over people's heads, or panes of glass to safely throw people through during a barroom brawl (or the Christmas family get together). You might want to cast with polyester resins, urethane foam, plastic wood, Durham's Rock Hard and more.

Then there is a whole section on vacuum forming with thermoplastics using a large, high-performance, home-made vacuum forming machine. You can watch as artists reproduce railings, cornice molding and even tile roofs in lightweight plastic sheeting. It's quite impressive. And the whole book shows you how you can do it, too.

You could probably make rubber masks of your mother-in-law's face and sell them at Halloween.

Wall-to-wall photos. Detailed how-to. Hints, tips and secrets. This is a book on casting practically everything EXCEPT metal. Rare information. I think you'll really like it. You get your money's worth, and then some in my opinion. 8 1/2 x 11 paperback 236 pages Cat no 1328 \$19.95



THE PROP BUILDER'S MOLDING & CASTING HANDBOOK

by Thurston James

Try this! Take a dead carp and make a couple two-part plaster molds before it starts to decompose. Then make urethane castings with the molds. These are the Hollywood uses to make scenes for movies.

This is a great book all about making molds and casts for theatrical uses. You'll learn about one- and two-part plaster molds, a two-part mold using the shim method, molds from dental alginate and moulage, and a variety of molds using latex rubber, Silicone RTV rubber, injected Silicone molds and more.

The Secrets of Casting Almost Everything Except Metal!



You'll learn what type of release compound to use for each combination of mold and casting material.

Then you'll learn how to do absorption casting with latex and neoprene casting rubber. You can make papier-mache, Celastic and fiberglass casts. You can cast with hot melts such as wax, machinable wax, hot plasticine, hot melt glue, and hot melt rubber. You can make fake "glass" bottles to break over people's heads, or panes of glass to safely throw people through during a barroom brawl (or the Christmas family get together). You might want to cast with polyester resins, urethane foam, plastic wood, Durham's Rock Hard and more.

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"...do simple forming for around \$15.00 or less..."

MOLD PLASTICS! Build a Vacuum Forming Machine

Do It Yourself Vacuum Forming
by Douglas E Walsh

The author wrote me:

"When I tried to do research for this book I was surprised at how little information there was on the subject of Vacuum Forming. When I was put in charge of buying a machine for where I work, I was amazed at how few sources there were and the high cost of a simple machine....

I tried the obvious way first, as I'm sure many others have by using a kitchen oven and shop vacuum cleaner. The results were OK, but limited to simple parts in thin plastics. The oven part works fine but the vacuum cleaner just didn't provide enough vacuum. This must be what discourages most people because real vacuum pumps cost hundreds of dollars...

Not to be discouraged, I thought about it some more and came up with eight other sources for vacuum, most of which are inexpensive and one is totally free! I was then able to combine a vacuum cleaner with a cheap source of higher vacuum. This gave me that magic combination of high vacuum and high flow necessary for serious forming.

This easy-to-read book shows you how to get set up to do simple forming for around \$15.00 or less if you scrounge for parts. You can also build a two-stage high vacuum system for \$50-\$60 that can form up to 1/4" thick plastics...."

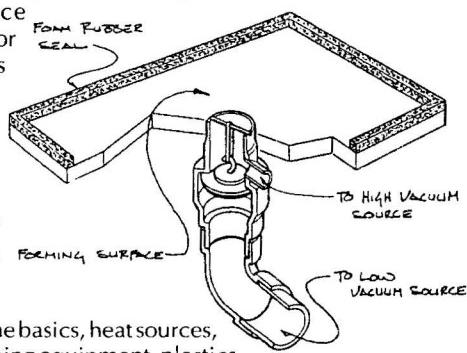
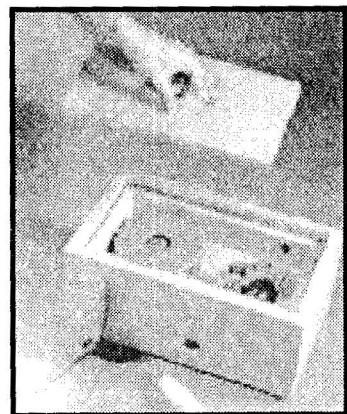
You can produce magnetic signs, parts for models, and all kinds of things if you use your imagination. You can put this simple, but powerful mass-production technique to work for you because you don't have to spend a fortune on equipment.

Chapters include the basics, heat sources, vacuum sources, forming equipment, plastics, molds, forming and finishing. You get straight forward to-the-point how-to with plenty of photos and drawings.

Possible money maker! Fun to try. Here's an excellent book by a man who has done it, and explains it clearly. Get a copy! 5 1/2 x 8 1/2 booklet-style spine 128 pages

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Technology of Carbon & Graphite FIBER COMPOSITES

TECHNOLOGY OF CARBON & GRAPHITE FIBER COMPOSITES
by John Delmonte

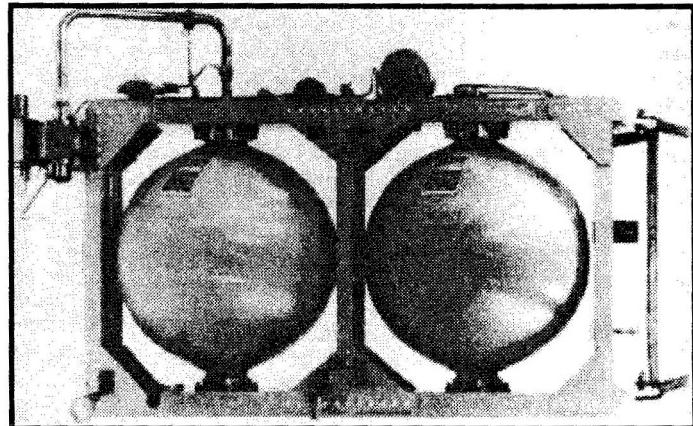
Planning to build a stealth automobile that can rocket 120 miles an hour down the interstate and yet not register on Smokey's radar? If so, you'll need composites, and this book will take you into this hot technology.

What are composites? Fiber-glass is one. Here you have glass embedded in a resin matrix. Replace the glass with carbon or graphite fibers and you end up with an incredibly strong, lightweight plastic material that is used as fan blades in jet engines, as heavy duty truck springs, or even as pressure vessels to hold oxygen, nitrogen, and helium on

the space shuttle.

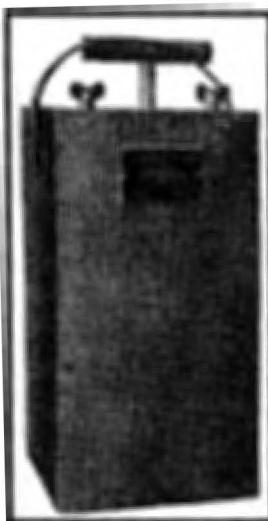
Chapters include: origins of carbon and graphite fibers, preparation and properties of carbon and graphite fibers, synthetic resin matrices for service to 200°C, matrices for use up to 300°C, thermoplastic matrices, surface treatments and their effect on composites, mechanical and physical properties, electrical properties and applications, environmental influences, test methods for advanced composites, composites in aircraft and automotive applications, industrial and commercial applications, high temperature resistant matrices, and manufacturing and processing techniques.

This is a great introductory industrial text. You get charts,



tables, chemical structures, test data and loads of detail you'll never get from some men's magazine article. Obviously, this is not going to reveal top secret methods used by the military to build stealth fighters, but you'll come away from this book with in-depth knowledge of composites.

Expensive, but this book delivers the secrets of a high-tech material science. Tune it, and find out what's happening. Maybe you can find a way to fabricate your own! Get a copy! 6x9 hardcover 452 pages Cat. no. 1143 \$46.50



EXPLOSIVES FOR SHALE AND CLAY BLASTING

by E. I. Du Pont deNemours
reprinted by Lindsay Publications

So yer gonna dig a hole in the ground, huh? To bury your mother-in-law perhaps? Need some help? Try dynamite.

Some of the biggest holes in the ground were dug to extract clay for making brick and tile. Dynamite makes excavation faster and easier. In 1916 DuPont published this booklet to entice you to use their dynamite.

You'll be shown how to clear the land of stumps and boulders. Then you bore holes to displace overburden to get to the clay. Once that's done the steam shovel can get in and mine the clay.

Getting down to shale is easy too. "Usually, for shallow faces and flat strati-

DYNAMITE THE MUTHA!

fication, the best practice is to punch vertical holes from the top of the bench.... Red Cross Extra dynamite 20 per cent. to 40 per cent. strength is recommended..." You'll find out how many holes, how deep, how far apart, etc.

You get info on digging plastic clays, mining flint clays, draining clay pits, and brief info on changing the course of a stream. The last part of the booklet goes into explosives and blasting supplies. You get details on old time dynamite, blasting caps, safety fuse, cap crimpers, T-handle blasting machines (including an internal view), leading, wire, rheostats, etc. The last couple of pages will tell you how to dig post holes with dynamite and how to handle a misfire.

Interesting. You could probably get enough info to build a replica of a blasting machine and dynamite sticks to scare the hell out of door to door salesmen! (Just don't take it to the airport. You'll do time...) An old book, but dynamite is still dynamite. Unusual. 5 1/2 x 8 1/2 booklet 48 pages Cat. no. 21257 \$4.95

JOHNNY CARSON'S MAIL!

DEAR JOHNNY
by Bowen & Huber

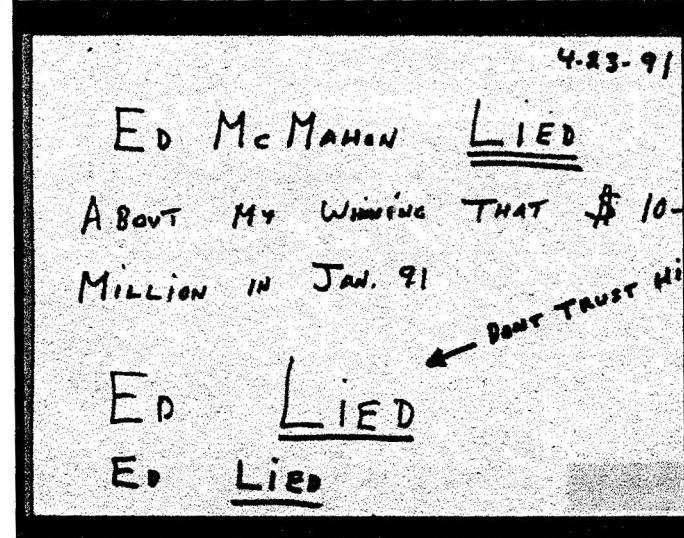
Now you can read some of the crazy mail Johnny Carson got over the years while he was hosting the Tonight show. It's "a behind-the-scenes look at some of the most hilarious, absurd, bizarre, scary, confusing, heart-rending, heart-warming, and inspired fan mail and gifts received by Johnny Carson.."

"Devoted viewers sent him an array of tokens of appreciations from stuffed rodents dressed as Carnak, to spray-painted cow dung, and that's only the beginning..."

You get letters from people who wanted to be discovered, religious fanatics, lunatics, kids, angry people with criticisms, women who think they're married to Johnny, and people who think Johnny is their father.

This is hysterical reading. Personally, I think all the letters in here are from the lunatic fringe. But I probably shouldn't say that. I'll bet YOUR letter to JC is in here, too!

Fun reading. No practical value other than making your gut hurt. Get a copy. 8x10 paperback over 200 pages Cat. no. 6059 \$12.95



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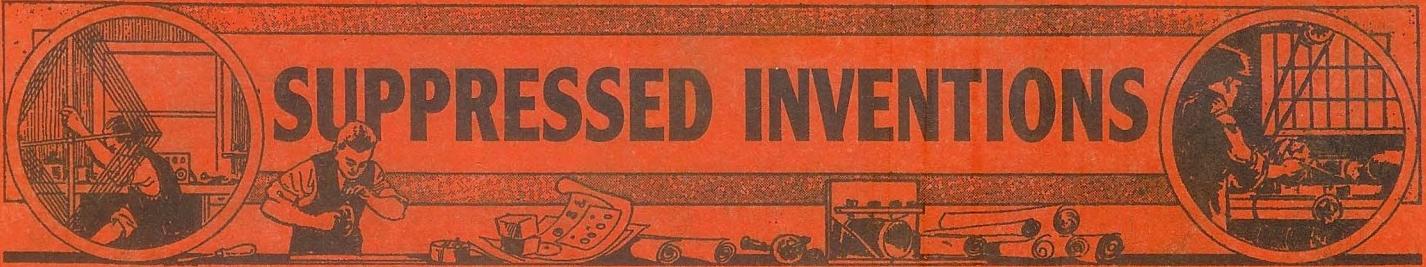
Defective books should be returned to us immediately for replacement or credit.

BOOKS RETURNED FOR CREDIT

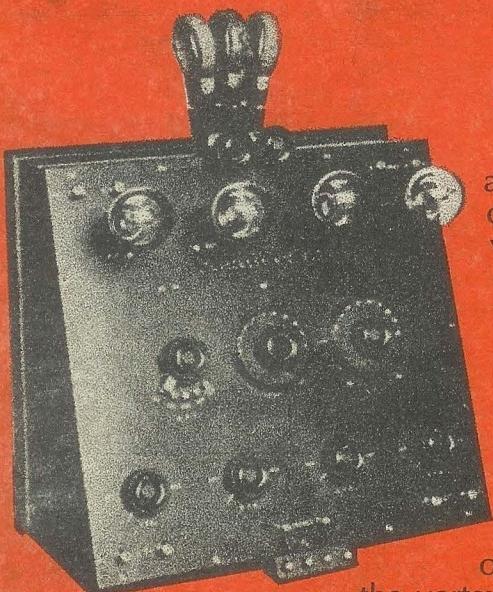
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Dr. Valkci Naltza's Ether Vortex Controller



PLEASE NOTE!

We have told you everything we know about this invention. DO NOT call or write for additional information. It will NOT be provided.

Naltza's 1923 controller was an apparent attempt to disable battlefield radio communications by disrupting the ether in the vicinity of the controller. From all accounts the controller was to be driven to the battlefield location in a tank and activated. Through a process only partially understood the controller created a large vortex in the ether around it that prevented all radio signals from reaching nearby receivers. Essentially, the controller created a "partial radio vacuum". Did it work? We're not sure.

What is of special interest is the sudden failure of all internal combustion engines running within the vortex area. Naltza theorized that the controller was disrupting engine ignition systems since the only diesel engine in the vicinity continued to run. Could it have disrupted modern power, telephone, and computer systems, too?

Naltza and his original controller disappeared in the 1930's. Researchers contend that a model of the machine was on display in a Prague science museum as late as 1967, but has not been seen since.

Although the Michelson-Morley experiment of 1887 disproved the existence of ether, contemporary proponents of the theory claim Naltza's machine found its way into Soviet military research and development laboratories east of the Ural Mountains.

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